AUTHOR INDEX

VOLUME 5

Abbott, S. L., 161
Actor, Paul, 63, 223
Adams, H. Richard, 640
Allen, Lois B., 652
Amyes, S. G. B., 169
Andrews, Fred A., 234
Arai, Yoshiaki, 578
Araujo, Fausto G., 647
Armfield, Ann Y., 589
Arnow, P., 49
Artenstein, Malcom J., 388
Asako, Tsunehiko, 92

Bach, Michael C., 344
Baker, C. N., 228, 268
Bandyopadhyay, Susanta Kr., 431
Battaner, E., 371
Beggs, William, H., 234
Beilstein, Henry R., 210
Bennett, G. A., 634
Bennett, John V., 357
Birnbaum, Jerome, 121
Bissett, M. L., 161
Black, H. R., 444
Blazevic, Donna J., 462
Billard, William, 19
Bodey, Gerald P., 366, 508
Bracha, Rivka, 663
Bradley, S. G., 413
Brady, Eileen, 318, 409
Bran, Jose L., 276
Braun, Volkmar, 520
Brooker, Doris C., 599
Brown, Eric R., 153
Burmeister, H. R., 634
Butzler, J. P., 86

Carlson, Roger H., 337
Carr, Howard S., 199
Carrizosa, Jaime, 192
Carter, William A., 196
Cellozzi, Evemarie, 33
Cheung, Sze-schuen C., 16
Clayton, J. P., 670
Clewell, Don B., 534
Cohen, S., 565
Coleman, Virginia, 398
Cole, M., 670
Corman, Leonard, 388
Coward, Joe E., 199
Crowe, Christine C., 272

Dajani, Adnan S., 594
Daneau, D., 133
Daood, Mohammad, 247
Daoust, Donald R., 38
Datta, Naomi, 310
Davis, Starkey D., 281
Dawson, Chandler, 398
DeFuria, M. D., 143
Dekeyser, P., 86
Dickson, Judith, 63
Donta, Sam T., 240
Dowell, V. R., Jr., 589
Drach, John C., 337
Drew, W. Lawrence, 607
Duncan, Ian B. R., 9

Elliott, Roger A., 444
Elson, S. W., 670

Facklam, R. R., 228
Feld, Ronald, 508
Feldman, Sandor, 289
Ferres, H., 670
Finegold, Sydney M., 589
Finland, Maxwell, 344
Fitzgerald, Jude, 458
Flowers, Harold M., 179
Fodor, Georgeta, 630
Formica, Joseph, 296
Foster, S. J., 194
Fotiadis, I. G., 383
Fox, Charles L., Jr., 582
Franke, Arthur E., 534
Franklin, T. J., 194
Friedman-Kien, Alvin E., 318, 409
Fuse, Aisaku, 547

Gabridge, Michael G., 453
Gadebusch, H. H., 49
Galabov, Angel S., 1
Garner, Carol, 344
Gold, Olga, 344
Goodman, Frank R., 640
Gordon, I., 479
Gordon, Paul, 153
Griffith, Donald P., 101, 106
Guarini, Joseph, 63

Haltalin, Kenneth C., 439
Haque, H., 447
Hasegawa, Sumio, 111, 513
Hashimoto, Hajime, 68
Hasuda, Katsumi, 547
Hendlin, David, 25, 33, 38
Henri, A., 133
Hensgens, C., 133
Hesseltine, C. W., 634
Hiraga, Kentaro, 92
Hirschman, Shalom Z., 75, 611
Ho, Richard I., 388
Hoo, Robert, 607
Hoeprich, Paul D., 330
Holl, Walter, 223
Holmes, King K., 114
Horii, Satoshi, 578
Horikoshi, Noboru, 366
Hornick, Richard B., 403
Horoszewicz, Julius S., 196
Huffman, John H., 652
Hughes, Walter T., 289
Huppert, M., 473
Hyams, Phineas J., 571
Hyslop, Newton E., Jr., 617

Igarasi, Seizi, 92
Iida, Kyoko, 95
Ingerson, Ann P., 672
Inoue, Matsuhisa, 553
Iyobe, Shizuko, 68, 547

Jackson, George Gee, 247
Jaffe, Gabriel, 75, 611

Kabins, S., 565
Karney, Walter W., 114
Katchalski, Ephraim, 179
Kawabe, Haruhide, 553
Kaye, Donald, 192, 667
Kida, Makota, 92
King, James R., 98
Klastersky, J., 133
Klein, Richard J., 318, 409
Kleit, Stuart A., 444
Kligman, A. M., 323
Kobayashi, George S., 16, 377
Kodama, Hiroshi, 541
Koike, Masaatsu, 95
Kong, YuLin, 33
Kono, Megumi, 68, 558
Kotler-Brajtburg, Janina, 377
Kripalani, K., 49
Kubota, Hideo, 111, 513
Kumar, B. Vijaya, 371
Kwok, Yung-Yuan, 589

Lafontaine, T., 86
Lambe, Dwight W., Jr., 357
Lanier, Jeff, 398
Lerner, Phillip I., 302
Levison, Matthew E., 192, 276, 466, 667
Levinson, Warren, 398
Liberman, Daniel F., 458
Lorian, Victor, 630
Luft, Friederich C., 444
Lund, Marlys E., 599
Lundbäck, A. K., 492, 500

McDonald, D. R., 562
McNabb, Paul C., 289

Maeda, Hiroshi, 354
Maier, Thomas W., 210
Majumdar, S. K., 431
Makres, Thomas D., 289
Marecki, Nelda M., 413
Marples, R. R., 323
Marr, J. Joseph, 469
Martin, R. Russell, 435
Matsen, John M., 462, 599
May, W. Stratford, Jr., 296
Medoff, Gerald, 16, 377
Meyer, Rich B., Jr., 652
Meyers, Burt R., 75, 611
Miller, A. Katharine, 33
Milligan, Richard J., 617
Mirelman, David, 663
Mitsuhashi, Susumu, 68, 92, 547, 553, 558
Mizokami, Nariakira, 578
Modak, Shanta M., 582
Morse, Stephen A., 388
Moyed, H. S., 479
Musher, Daniel M., 101, 106

Nash, Claude H., III, 544
Nathan, C., 565
Nelson, John D., 439
Niitu, Yasutaka, 111, 513
Nogami, Ikuo, 578
Nordström, K., 492, 500
Norrby, Erling, 426

O'Hara, Koji, 68, 558
Okutani, Tetsuya, 92
Olarte, J., 310
Onishi, H. Russell, 38
Overman, Sue B., 357

Pachuta, Donald M., 403
Parker, A. S., 119
Pauls, John F., 63
Peets, Edwin, 19
Pelak, Barbara A., 33
Pestka, Sidney, 255
Pfaller, Michael A., 469
Pitkin, Donald, 223
Pittillo, Robert F., 82
Pitton, J. S., 186
Plummer, G., 672
Post, Alex, 223
Price, H. D., 90, 377
Price, K. E., 143
Pursiano, T. A., 143

Rabson, Alan, 398
Raff, M., 294
Rahal, James J., Jr., 571
Rao, G. Ramananda, 420
Ravreby, William, 75
Reeves, D. S., 119
Remington, Jack S., 647
Ries, Kristen, 276
Riff, Louise J., 247
Robertson, Richard G., 458
Robins, Roland K., 652
Rodriguez, Victorio, 366, 508
Rogers, Thomas O., 121
Ronsen, Bruce, 153
Rosemond-Hornbeak, H., 55
Rosenkranz, Herbert S., 199
Roupas, A., 186
Ruben, Frederick L., 383
Rudoy, Raul C., 439
Russell, A. D., 447

Saenz, Corando, 106, 435
Sanders, W. Eugene, Jr., 272
Sato, Gihei, 541
Schaller, Klaus, 520
Scharfenberger, L., 294
Schlessinger, David, 16, 377
Schreiber, E. C., 49
Schwartz, Andrew R., 403
Schwartz, Pauline M., 337
Sharp, Philip M., 435
Shenfeld, Avner, 179
Shipman, Charles, Jr., 337
Shuman, Dennis A., 652
Sidwell, Robert W., 652
Sievertsson, Hans, 426
Simberkoff, Michael S., 571
Simon, Lionel N., 652
Sirsi, M., 420
Smith, Louis DS., 658
Smith, J. T., 169
Sreevalsan, T., 55
Stapley, Edward O., 33, 38
Stevenson, D., 479
Sulman, F. G., 139
Sun, Sung H., 473
Sutter, Vera L., 589
Swamy, K. H. Sreedhara, 420
Szwed, James J., 444

Tally, Francis P., 589
Tanaka, Teruo, 538
Taube, Zaiga, 594
Terakado, Nobuyuki, 541
Thornsberry, Clyde, 228, 268
Togo, Yasushi, 403
Tominaga, Suketami, 403
Tonew, E., 393
Tonew, Marion, 393
Tritz, Gerald J., 217
Tuli, V., 479, 485
Turck, Marvin, 114
Tyler, Michael, 101

Uri, Joseph, 63

Valdivieso, Manuel, 508
Velichkova, Emilia H., 1
Vesonder, R. F., 634
Vukovich, Katherine R., 473

Wabl, Mathias, 520
Wallick, Hyman, 25
Walter, Harry, 203
Warshauer, David M., 330
Waterman, N., 294
Waterworth, Pamela M., 562
Wayne, Lawrence C., 203
Weisbach, Jerry A., 63, 223
Weisblum, Bernard, 538
Weiss, George B., 640
Weliky, I., 49
Westhead, J. E., 90
Whitcher, Jack, 398
Wilkins, Tracey D., 658
Winkelstein, A., 383
Wise, R., 119
Wlodkowski, Theodore J., 199
Woelfel, Alan, 101
Wood, R. M., 161
Woodson, Bruce, 398
Woolley, Carolyn, 82
Wright, G. E., 143

Yoneda, Masahiko, 578
Yoshikawa, Masanosuke, 362
Youssuf, Mohammad, 247

Zimelis, Victoria M., 247
Zimmerman, Sheldon B., 38
Ziv, G., 139
Zubrzycki, Leonard, 210

SUBJECT INDEX

VOLUME 5

Acetohydroxamic acid
  interaction with antibiotics against gram-negative pathogenic bacteria, 106
  potentiation of the antibacterial effect of methenamine, 101
Acetylaranotin
  sulfhydryl reactivity, 19
Actinomycetes
  susceptibility, 302
Actinomycin biogenesis
  pipecolic acid isomers, 296
  S. antibioticus, 296
Agar diffusion method
  metronidazole, 466
D-Alanyl-L-alanine cross-linkage
  M. luteus, 663
  penicillin G, 663
Alkaline phosphatase
  formation, 431
  neomycin biosynthesis, 431
Allopurinol
  antileishmanial effect, 469
Amikacin
  pharmacology in humans, 504
  P. rettgeri, 435
Aminoglycoside antibiotics
  cell wall alterations of gram-negative bacteria, 95
  P. aeruginosa susceptibility, 281
  synergy with cephalosporins, 571
Amoxicillin
  treatment of gonorrhea, 114
Amphotericin B
  alteration of tyrosine aminotransferase activity, 240
  effect on hepatoma cells, 240
  ribonucleic acid synthesis, 371
  S. cerevisiae inhibition, 371
  toxicity, 377
Amphotericin B-tetracycline therapy
  coccidioidomycosis, 473
Ampicillin
  E. coli, 492
  E. coli R factor-mediated and chromosomal resistance to, 186
  N. asteroides, synergistic action against, 344
  oral form, talampicillin, 670
  synergistic action, 344
Ampicillin plus probenicid
  treatment of gonorrhea, 114
Anaerobic bacteria
  carbenicillin susceptibility, 462
Anaerobic bacterial infections
  clindamycin treatment, 276
Ansamycins
  murine myeloid colony-forming cell responses to, 196
Antibacterial agents,
  evaluation of methods used on human skin, 323
Antibiotic disk susceptibility test
  N. gonorrhoeae, 210
Antibiotics
  ribosome structure probes, 255
Antimicrobial compounds
  susceptibility of actinomycetes, 302
Anti-R factor agents
  screening method, 365
Antitumor antibiotic
  pyrazofurin, 90
Antiviral activity
  6-substituted 9-β-D-ribofuranosylpurine 3′,5′-cyclic phosphates, 652
Antiviral antibiotic
  pyrazofurin, 90
Antiviral compounds
  Herpes simplex virus infection, 318
9-β-D-Arabinofuranosyladenine
  effect of thermal inactivation, 337
  Herpes simplex virus infection, 318
  serum-associated deamination, 337
  Shope fibroma virus, 409
  vaccinia virus, 409
Autoturb System
  cefazolin determination, 223
  semiautomated turbidimetric microbiological assay, 223
6-Azauridine
  Herpes simplex virus infection, 318

Bacillus species
  5-β-D-xylofuranosylneamine, 578
Bacteroides fragilis
  standardized susceptibility tests, 357
  tetracycline susceptibility, 357
BB-K8
  activity against aminoglycoside-resistant isolates, 143
  compared with sisomicin, gentamicin, and tobramycin, 667
Bile constituents
  gentamicin assays, 562
Body fluids
  tobramycin distribution compared with gentimicin, 444
Burn wound infections
  silver sulfadiazine, 582

Candida albicans
  cell permeability, 420
  miconazole, 420
  respiration, 420
Carbenicillin
  P. aeruginosa resistance, 599
  susceptibility of anaerobic bacteria, 462
  susceptibility of *P. aeruginosa* isolates, 9

Carbenicillin disks
diffusion susceptibility testing, 599
Canine serum binding rate
cefazolin, cephaloridine, and cephalothin binding rate, 294
Carbon dioxide
effect on erythromycin, 544
Cations
herpes simplex, inactivation, 398
Cefazolin
Autoturb System, 223
disk susceptibility studies, 63
protein binding rate, 294
semiautomated turbidimetric microbiological assay, 223
Cefoxitin
in vivo evaluation of, 33
resistance to beta-lactamase inactivation, 38
susceptibility studies, 25
Cephacetrile
double-blind comparison with cephalothin/cephaloridine, 247
Cephaloridine
double-blind comparison with cephacetrile, 247
protein binding rate, 294
Cephalosporins
comparison of three, 247
synergy with aminoglycosides, 571
Cephalothin
disk suceptibility studies, 63
double-blind comparison with cephacetrile, 247
plebitis incidence with buffered and unbuffered diluents, 192
protein binding rate, 294
Cephamycin antibiotics
cefoxitin susceptibility studies, 25
in vivo evaluation of cefoxitin, 33
resistance of cefoxitin to beta-lactamase inactivation, 38
Cephradine
absorption in animals, 49
excretion in animals, 49
tissue distribution in animals, 49
Chloramphenicol
E. coli, 492
erythromycin binding to polyribosomes, 255
P. aeruginosa resistance, 547
ribosome structure probe, 255
Chloramphenicol acetyltransferase activity
and number of resistance genes, 68
Chromatography
penicillins, 617
penicilloates, 617
penicilloylamides, 617
Clindamycin
anaerobic bacterial infection treatment, 276
F. (Sphaerophorus) necrophorum, 658
toxoplasmosis in mice, 658
Clindamycin serum levels
rapid disk test, 458
Clostridium ramosum
susceptibility, 589
Coccidioidomycosis
amphotericin B-tetracycline therapy, 473
Colicin M
isolation, characterization, and action, 520
Colistin
susceptibility of *P. aeruginosa* isolates to, 9
Coxsackie virus
N-phenyl-*N'*-alkylthiourea antiviral activity in, 1
N-phenyl-*N'*-aryl antiviral activity in, 1
Cyclohexane-1,2-diaminoetetraacetic acid
gram-negative bacteria, 447

Deaminase activity
effect of thermal inactivation, 337
Diffusion susceptibility testing
carbenicillin disks, 599
Dihydropteroate synthetase
N. gonorrhoeae, 388
N. meningitidis, 388
Dihydrostreptomycin inactivation
S. aureus, 594
Disk susceptibility studies
with cefazolin, 63
with cephalothin, 63
Double-blind comparison
cephacetrile with cephalothin/cephaloridine, 247
Doxycycline
entry into saliva and tears, 330

Endocarditis
group D streptococci susceptibility, 228
S. bovis susceptibility, 228
S. mutans susceptibility, 268
Endotoxin
6-mercaptopurine, enhanced toxicity, 413
toxicity, 413
Enterobacter cloacae
silver sulfadiazine-resistant, 199
Enterococcal L-forms
lysis by phenethyl alcohol, 98
Erythromycin
carbomycin-inducible resistance of *S. aureus*, 538
chloramphenicol binding to polyribosomes, 255
effect of carbon dioxide, 544
lincomycin-inducible resistance of *S. aureus*, 538
M. pneumoniae, 513
N. asteroides, synergistic action against, 344
plasmid determining resistance, 534
resistant *M. pneumoniae* strain for the fermentation-inhibition test, 111
ribosome structure probe, 255
rosamicin comparison, 272
S. aureus mutant, 538
S. pyogenes, 534
synergistic action, 344
Erythromycin inactivation
S. aureus, 594
Escherichia coli
ampicillin, 492
chloramphenicol, 492
chromosomal resistance to ampicillin, 186
isoniazid inhibition, protection from, 217
partition, 203

R-factor-mediated drug metabolizing enzymes, 492
R factor-mediated resistance to ampicillin, 186
R factor-mediated resistance to tetracycline, 194
streptomycin, 492, 500
streptomycin-resistant mutations, 500
synergism of mutations, 500
Ethambutol binding
chemical characterization, 234
M. smegmatis, 234
Ethylenediaminetetraacetic acid
gram-negative bacteria, 447
1-Ethylisatin-*S*-ethyl-isothiosemicarbazone
mengovirus-infected FL cells, 393
1-Ethylisatin-*S*-*n*-butyl-isothiosemicarbazone
mengovirus-infected FL cells, 393

Fermentation-inhibition test
with erythromycin-resistant strain of *M. pneumoniae*, 111
Filipin
toxicity, 377
FL cells
1-ethylisatin-*S*-ethyl-isothiosemicarbazone, 393
1-ethylisatin-*S*-*n*-butyl-isothiosemicarbazone, 393
1-methyl-isatin-*S*-ethyl-isothiosemicarbazone, 393
mengovirus infection, 393
Fosfomycin
biosynthesis by *S. fradiae*, 121
Fusarium equiseti
antibiotic production, 634
Fusobacterium (*Sphaerophorus*) *necrophorum*
clindamycin, 658
lincomycin, 658
penicillin-G, 658
tetracycline, 658

Gentamicin
body fluid distribution of dogs, 444
compared with sisomicin, tobramycin, and BB-K8, 667
compared with tobramycin, 133, 444
P. aeruginosa, 565
susceptibility of *P. aeruginosa* isolates, 9
vascular smooth muscle, 640
Gentamicin-adenylyltransferase activity
gentamicin resistance in *P. aeruginosa*, 565
Gentamicin assays
effect of bile constituents, 562
Gonorrhea
treatment with amoxicillin, 114
treatment with ampicillin plus probenicid, 114
Gram-negative bacteria
cell wall alterations by aminoglycoside antibiotics, 95
cyclohexane-1,2-diaminoetetraacetic acid, 447
ethylenediaminetetraacetic acid, 447
iminodiacetic acid, 447
n-hydroxyethylethylenediamine triacetic acid, 447
nitriloacetic acid, 447
Gram-negative bacteria infections
tobramycin therapy, 75
Gram-negative pathogenic bacteria
acetohydroxamic acid and antibiotics against, 106
Group D streptococci
antibiotic susceptibility, 228
6-[D-α-(3-Guanylureido)-phenylacetamido]-penicillanic acid
human pharmacology, 366

Hepatoma cells,
amphotericin B effect, 240
tyrosine aminotransferase activity, 240
Herpes simplex virus
cations, 398
thiosemicarbazones, 398
Herpes simplex virus infection
antiviral compound treatment, 318
9-β-D-arabinofuranosyladenine, 318
6-azauridine, 318
hairless mice, 318
5-iodo-2′-deoxyuridine, 318
Herpesviral encephalitis
iododeoxyuridine, 672
Herpesvirus
3-methyleneoxindole, 479
Hfr strain
anti-R factor agent screening method, 365
Histamine dihydrochloride
vascular smooth muscle, 640
Histoplasma capsulatum
effects of rifamycin derivatives against, 16
effects of rifamycin derivatives with amphotericin B against, 16
Human pharmacology
6-[D-α-(3-guanylureido)-phenylactamido]-penicillanic acid, 366
Human skin
topical antibacterial agents, 323
N-hydroxyethylethylenediamine triacetic acid
gram-negative bacteria, 447

Iminodiacetic acid
gram-negative bacteria, 447
5-Iodo-2′-deoxyuridine
Herpes simplex virus infection, 318
herpesviral encephalitis, 672
Isoniazid inhibition
E. coli, protection, 217
Isoprinosine
anti-herpesvirus action of, 153
human rhinovirus infection, 403

Kanamycin
P. aeruginosa resistance, 547
vascular smooth muscle, 640

Leishmania braziliensis
allopurinol, 469
Leucine
action on *S. aureus* cells, 179
L-forms
lysis by phenethyl alcohol, 98

Lincomycin
F. (*Sphaerophorus*) *necrophorum*, 658
M. pneumoniae, 513
plasmid determining resistance, 534
rosamicin comparison, 272
S. pyogenes, 534

Macrolide antibiotics
M. pneumoniae, 513
Measles virus
effect of polypeptides, 426
Mengovirus
-1-ethylisatin-*S*-ethyl-isothiosemicarbazone, 393
1-ethylisatin-*S*-*n*-butyl-isothiosemicarbazone, 393
FL cells, 393
3-methyleneoxindole, 479
1-methyl-isatin-*S*-ethyl-isothiosemicarbazone, 393
6-Mercaptopurine
toxicity enhanced with bacterial endotoxin, 413
Methenamine
potentiation of antibacterial effect by acetohydroxamic acid, 101
3-Methyleneoxindole
antiviral action mechanism, 485
herpesvirus, 479
mengovirus, 479
poliovirus, 479, 485
Sindbis virus, 479
1-methyl-isatin-*S*-ethyl-isothiosemicarbazone
mengovirus-infected FL cells, 393
Metronidazole
agar diffusion method, 466
Miconazole
C. albicans, 420
mechanism of action, 420
Micrococcus luteus
D-alanyl-L-alanine cross-linkage, 663
penicillin G, 663
Minocycline
entry into saliva and tears, 330
Murine myeloid colony-forming cell
responses to ansamycin antibiotics, 196
Mycobacterium smegmatis
ethambutol binding, 234
Mycoplasma pneumoniae
erythromycin, 513
erythromycin-resistant strain for the fermentation-inhibition test, 111
lincomycin, 513
macrolide antibiotics, 513
Mycoplasma-induced lethal toxicity
pactamycin and sparsomycin synergism, 453

Neisseria gonorrhoeae
antibiotic disk susceptibility test, 210
dihydropteroate synthetase activity, 388
sulfanilamide-resistant extracts, 388
Neisseria meningitidis
dihydropteroate synthetase activity, 388
doxycycline susceptibility, 330
minocycline susceptibility, 330
oxytetracycline susceptibility, 330
sulfanilamide-resistant extracts, 388
tetracycline susceptibility, 330
Neomycin
alkaline phosphatase formation, 431
Neurospora crassa
quantitative assay of pyrazofurin against, 90
Nitriloacetic acid
gram-negative bacteria, 447
Nitrofurantoin disks
susceptibility testing, 607
1-Norepinephrine bitartrate
vascular smooth muscle, 640

Ornithine
action on *S. aureus* cells, 179
Oxytetracycline
entry into saliva and tears, 330

Pactamycin
synergy with sparsomycin, 453
Partition of bacteria
E. coli subpopulations, 203
two-polymer aqueous phases, 203
Penicillanic acid
human pharmacology, 366
Penicillin G
D-alanyl-L-alanine cross-linkage, 663
F. (*Sphaerophorus*) *necrophorum*, 658
M. luteus, 663
Penicillins
chromatography on dextran gels, 617
Penicilloates
chromatography on dextran gels, 617
Penicilloylamides
chromatography on dextran gels, 617
Pharmacokinetics
tobramycin, 611
Pharmacology studies
amikacin, 508
Phenethyl alcohol
lysis of enterococcal L-forms, 98
N-phenyl-*N'*-alkylthiourea
antiviral activity of in Coxsackie virus, 1
N-phenyl-*N'*-aryl
antiviral activity of in Coxsackie virus, 1
Pipecolic acid isomers
actinomycin biogenesis, 296
Plasmid
resistance to erythromycin, lincomycin, and vernamycin$_{\alpha}$, 534
Poliovirus
inhibition of Sindbis virus replication, 55
3-methyleneoxindole, 479, 485
Polymyxin
P. aeruginosa susceptibility, 281
Polymyxin B
susceptibility of *P. aeruginosa* isolates to, 9
Polypeptides
measles virus, 426
Potassium chloride
vascular smooth muscle, 640
4-(2-Propinyloxy)-β-nitrostyrene
sulfhydryl reactivity, 19
Proteus rettgeri
amikacin treatment, 435

Proteus strains
cephalosporin and aminoglycoside synergy against, 571
Providencia strains
cephalosporin and aminoglycoside synergy against, 571
Pneumocystis carnii pneumonitis
sulfamethoxazole treatment, 289
trimethoprim treatment, 289
Pseudomonas aeruginosa
aminoglycoside susceptibility, 281
carbenicillin, 547
chloramphenicol, 547
gentamicin-adenylyltransferase activity, 565
gentamicin resistance, 565
kanamycin, 547
polymyxin susceptibility, 281
R factors, 547
selective phosphorylation of ribostamycin, 92
sisomicin inactivation, 558
streptomycin, 547
sulfanilamide, 547
susceptibility tests, 281
tetracycline, 547
Pseudomonas aeruginosa isolates
susceptibility to carbenicillin, 9
susceptibility to colistin, 9
susceptibility to gentamicin, 9
susceptibility to polymyxin B, 9
Pyrazofurin
quantitative assay of against *N. crassa*, 90

Rapid disk test
clindamycin serum levels, 458
Resistance gene numbers
and chloramphenicol acetyltransferase activity, 68
R factor classification
by compatibility, 310
S. dysenteriae, 310
S. typhi, 310
R-factor-mediated enzymes
E. coli K-12, 492
R factors
in *Salmonella*, 161
integrative suppression tests, 362
P. aeruginosa, 547
S. typhimurium, 541
temperature-sensitive transfer, 541
Rhinovirus
isoprinosine, 403
9-β-D-Ribofuranosylpurine 3′,5′-cyclic phosphates
6-substituted derivatives, 652
Ribonucleic acid synthesis
amphotericin B, 371
rifampin, 371
Ribosome structure
antibiotics as probes, 255
Ribostamycin, 5-hydroxy group
selective phosphorylation of by a *P. aeruginosa* enzyme, 92
Rifampin
kinetics in lactating ewes, 139
ribonucleic acid synthesis, 371
S. cerevisiae inhibition, 371
tuberculosis patients, 383
Rifamycin derivatives
effects alone against *H. capsulatum*, 16
effects with amphotericin B against *H. capsulatum*, 16
Rifamycin SV
kinetics in lactating ewes, 139
Rosamicin
erythromycin comparison, 272
evaluation in vitro, 272
lincomycin comparison, 272

Saccharomyces cerevisiae
amphotericin B, 371
rifampin, 371
Saliva
entry by tetracyclines, 330
Salmonella
antimicrobial resistance, 161
R factors, 161
Salmonella typhimurium
R factor with temperature-sensitive transfer, 541
Salmonella typhi
epidemics in Mexico, 310
R factor classification, 310
Screening method
anti-R factor agents, 365
using Hfr, 362
Selenocystine
sulfhydryl reactivity, 19
Shigella dysenteriae 1
epidemics in Mexico, 310
R factor classification, 310
Shigellosis
sulfamethoxazole treatment, 439
trimethoprim treatment, 439
Shope fibroma virus
9-β-D-arabinofuranosyladenine, 409
Silver sulfadiazine
burn wound infections, 582
E. coli resistance to, 199
mechanism of action, 582
Sindbis virus
3-methyleneoxindole, 479
Sindbis virus replication
poliovirus inhibition of, 55
Sisomicin
compared with gentamicin, tobramycin, and BB-K8, 667
enzymatic inactivation, 558
Sisomicin inactivation
P. aeruginosa, 558
Sparsomycin
synergy with pactamycin, 453
Spectinomycin inactivation
S. aureus, 553
Staphylococcin
plasmid-mediated production, 594
S. aureus, 594
Staphylococcus aureus
action of leucine on, 179
action of ornithine on, 179

carbomycin-inducible resistance to erythromycin, 538
dihydrostreptomycin inactivation, 594
erythromycin inactivation, 594
lincomycin-inducible resistance to erythromycin, 538
spectinomycin inactivation, 594
staphylococcin production, 594
Streptococcus bovis
antibiotic susceptibility, 228
Streptococcus mutans
antimicrobial susceptibility in endocarditis patients, 268
Streptococcus pyogenes
erythromycin, 534
lincomycin, 534
Vernamycin$_{B\alpha}$, 534
Streptomyces antibioticus
actinomycin biogenesis, 296
Streptomyces fradiae
biosynthesis of fosfomycin, 121
Streptomycin
E. coli K-12, 492, 500
P. aeruginosa resistance, 547
vascular smooth muscle, 640
Streptonigrin
biological assay of in mice, 82
6-Substituted 9-β-D-ribofuranosylpurine 3′,5′-cyclic phosphates
antiviral activity, 652
Succinyl neocarzinostatin
preparation, 354
Sulfamethoxazole
combined with trimethoprim, 630
P. carni pneumonitis, 289
shigellosis treatment, 439
Sulfanilamide
P. aeruginosa resistance, 547
Sulfhydryl reactivity
mechanism of action of acetylaranotin, 19
mechanism of action of 4-(2-propinyloxy)-β-nitrostyrene, 19
mechanism of action of selenocystine, 19
Susceptibility
B. fragilis, 357
C. ramosum, 589
group D streptococci, 228
pathogenic actinomycetes, 302
S. bovis, 228
Shigella strains, 439
S. mutans, 268
Susceptibility test
B. fragilis, 357
nitrofurantoin disks, 607
P. aeruginosa, 281
Synergistic action
ampicillin, 344
erythromycin, 344
Synergy
cephalosporins and aminoglycosides against *Providencia* and *Proteus*, 571

Talampicillin
oral form of ampicillin, 670
Tears
entry by tetracyclines, 330
Temperature-sensitive transfer
R factor in *S. typhimurium*, 541
Tetracycline
B. fragilis, 357
E. coli R factor-mediated resistance to, 194
entry into saliva and tears, 330
F. (*Sphaerophorus*) *necrophorum*, 658
P. aeruginosa resistance, 547
Tetracycline-amphotericin B therapy
coccidioidomycosis, 473
Thermal inactivation
inhibition of deamination of 9-β-D-arabinofuranosyladenine, 337
Thiosemicarbazones
herpes simplex, inactivation, 398
Thymine starvation
analogy with trimethoprim action, 169
Ticarcillin
pharmacokinetics in dialysis patients, 119
Tobramycin
body fluid distribution of dogs, 444
compared with gentamicin, 133, 444
compared with sisomicin, gentamicin, and BB-K8, 667
pharmacokinetics, 611
use in gram-negative bacteria infections, 75
Toxicity
amphotericin B, 377
endotoxin, 413
filipin, 377
6-mercaptopurine, 413
molecular basis, 377
Toxoplasmosis in mice
clindamycin, 647
Trimethoprim
analogy with thymine starvation, 169
combined with sulfamethoxazole, 630
P. carni pneumonitis, 289
shigellosis treatment, 439
Tuberculosis patients
immunological responsiveness, 383
rifampin, 383
Tyrosine aminotransferase activity
amphotericin B treatment, 240
hepatoma cells, 240

Vaccinia virus
9-β-D-arabinofuranosyladenine, 409
Vascular smooth muscle
gentamicin, 640
histamine dihydrochloride, 640
kanamycin, 640
1-norepinephrine bitartrate, 640
potassium chloride, 640
streptomycin, 640
Vernamycin B$_{\alpha}$
plasmid determining resistance, 534
S. pyogenes, 534
Vibrio fetus
susceptibility to 12 antibiotics, 86
Vibrios
susceptibility to 12 antibiotics, 86

5-β-D-Xylofuranosylneamine
Bacillus-produced antibiotic, 578

ANTIMICROBIAL AGENTS
AND
CHEMOTHERAPY

VOLUME 5

BALTIMORE, MD. 21202

1974

ANTIMICROBIAL AGENTS AND CHEMOTHERAPY

VOLUME 5 • 1974

EDITORIAL BOARD

GLADYS L. HOBBY, Editor-in-Chief (1975)
U. S. Veterans Administration and the Infectious Disease Research Institute, East Orange, N.J.

WALTER D. CELMER, Editor (1975)
Pfizer Inc., Groton, Conn.

JOEL G. FLAKS, Editor (1976)
University of Pennsylvania, Philadelphia

EDWARD W. HOOK, Editor (1976)
University of Virginia, Charlottesville

LEON H. SCHMIDT, Editor (1979)
Southern Research Institute, Birmingham, Ala.

Theodore Anderson (1976)
Robert Austrian (1974)
John E. Bennett (1976)
Konrad E. Bloch (1975)
D. Buyske (1974)
Bernard E. Cabana (1975)
Charlotte C. Campbell (1976)
Yves Chabbert (1974)
Patricia Charache (1974)
Royston C. Clowes (1976)
Leighton E. Cluff (1974)
Kenneth W. Cochran (1975)
Roger Cole (1976)
Frank Collins (1976)
John Corcoran (1974)
Julian Davies (1976)
Liebor Ebringer (1974)
Theodore Eickhoff (1976)
H. L. Ennis (1974)
David S. Feingold (1975)
Robert J. Fitzgerald (1974)
Anthony J. Glazko (1975)
Irving H. Goldberg (1976)
Harry Gooder (1976)
M. Gorman (1974)
H. Grisebach (1974)
Arthur P. Grollman (1975)
Jack Gwaltney (1974)
Fred Hahn (1976)
William Hewitt (1974)
Ronald D. Hinsdill (1976)
Richard Hornick (1974)
Milton Huppert (1974)
Goerge Gee Jackson (1974)
Keith Jensen (1974)
E. H. Kass (1976)
Donald Kaye (1976)
Wm. Kirby (1976)
Vernon Knight (1974)
Calvin Kunin (1975)
Mark Lepper (1974)
Robert G. Loudon (1974)
Thomas H. Maren (1974)
L. Bruce Mellett (1976)
Lester Mitscher (1974)
S. Mitsuhashi (1974)
R. B. Morin (1976)
Bernard Moss (1975)
L. Nickell (1974)
Thomas C. Orihel (1976)
T. J. Perun (1974)
Charles A. Plate (1976)
Burton M. Pogell (1975)
K. E. Price (1976)
C. Reilly (1975)
Jack Remington (1976)
R. W. Rickards (1974)
R. W. Riddell (1974)
Richard Roberts (1976)
John Routien (1976)
Merle Sande (1976)
Arthur K. Saz (1976)
F. C. Sciavolino (1976)
Piero Sensi (1974)
John C. Sherris (1976)
Robert W. Sidwell (1975)
David Smith (1974)
Sigmund S. Socransky (1974)
Earle Spaulding (1974)
Gene Stollerman (1974)
R. Sutherland (1976)
Morton N. Swartz (1976)
Clyde Thornsberry (1976)
Ralph Tompsett (1976)
Donald Van Harken (1976)
D. Vazquez (1974)
G. H. Wagman (1974)
B. Weisblum (1976)

ROBERT A. DAY, *Managing Editor, 1913 I St., N.W., Washington, D.C. 20006*

EX OFFICIO

L. LEON CAMPBELL, President (1973–1974)
DONALD E. SHAY, Secretary
PHILIPP GERHARDT, Vice-President (1973–1974)
T. J. CARSKI, Treasurer

Antimicrobial Agents and Chemotherapy, a publication of the American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006, is devoted to the dissemination of knowledge relating to all aspects of antimicrobial agents and chemotherapy, including cancer chemotherapy. *Antimicrobial Agents and Chemotherapy* is published monthly, and the twelve numbers are divided into two volumes per year. The subscription price is $40 (foreign, $41) per year. Single copies are $4.00 (foreign, $4.25). Members of the American Society for Microbiology may receive *Antimicrobial Agents and Chemotherapy* as part of their dues. Correspondence relating to subscriptions, reprints, defective copies, availability of back issues, lost or late proofs, disposition of submitted manuscripts, and general editorial matters should be directed to the ASM Publications Office, 1913 I St., N.W., Washington, D.C. 20006 (area 202 833-9416). Correspondence from ASM members relating to membership, dues, member subscriptions, changes of address, incorrect journals, etc., should be directed to the Executive Secretary, American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006. Published monthly by the ASM at 1913 I St., N.W., Washington, D.C. 20006.

Second class postage paid at Washington, D.C. 20006, and at additional mailing offices.
Made in the United States of America.
Copyright © 1974, American Society for Microbiology
All Rights Reserved.

Volume 5 Contents for January Number 1

Antiviral Activity of *N*-Phenyl-*N'*-Aryl- or Alkylthiourea Derivatives in Coxsackie Virus Infections in Mice. ANGEL S. GALABOV AND EMILIA H. VELICHKOVA..... 1
Susceptibility of 1,500 Isolates of *Pseudomonas aeruginosa* to Gentamicin, Carbenicillin, Colistin, and Polymyxin B. IAN B. R. DUNCAN..... 9
Effects of Rifamycin Derivatives, Alone and in Combination with Amphotericin B, Against *Histoplasma capsulatum*. GEORGE S. KOBAYASHI, SZE-SCHUEN C. CHEUNG, DAVID SCHLESSINGER, AND GERALD MEDOFF..... 16
Sulfhydryl Reactivity: Mechanism of Action of Several Antiviral Compounds—Selenocystine, 4-(2-Propinyloxy)-β-Nitrostyrene, and Acetylaranotin. WILLIAM BILLARD AND EDWIN PEETS..... 19
Cefoxitin, a Semisynthetic Cephamycin Antibiotic: Susceptibility Studies. HYMAN WALLICK AND DAVID HENDLIN..... 25
Cefoxitin, a Semisynthetic Cephamycin Antibiotic: In Vivo Evaluation. A. KATHRINE MILLER, EVEMARIE CELOZZI, YULIN KONG, BARBARA A. PELAK, DAVID HENDLIN, AND EDWARD O. STAPLEY..... 33
Cefoxitin, a Semisynthetic Cephamycin Antibiotic: Resistance to Beta-Lactamase Inactivation. H. RUSSELL ONISHI, DONALD R. DAOUST, SHELDON B. ZIMMERMAN, DAVID HENDLIN, AND EDWARD O. STAPLEY..... 38
Cephradine: Absorption, Excretion, and Tissue Distribution in Animals of a New Cephalosporin Antibiotic. I. WELIKY, H. H. GADEBUSCH, K. KRIPALANI, P. ARNOW, AND E. C. SCHREIBER..... 49
Inhibition of Sindbis Virus Replication in HeLa Cells by Poliovirus. T. SREEVALSAN AND H. ROSEMOND-HORNBEAK..... 55
Disk Susceptibility Studies with Cefazolin and Cephalothin. PAUL ACTOR, JOSEPH GUARINI, JOSEPH URI, JUDITH DICKSON, JOHN F. PAULS, AND JERRY A. WEISBACH..... 63
Relationship Between Chloramphenicol Acetyltransferase Activity and the Number of Resistance Genes. SHIZUKO IYOBE, MEGUMI KONO, KOJI OHARA, HAJIME HASHIMOTO, AND SUSUMU MITSUHASHI..... 68
Clinical Study of the Use of the New Aminoglycoside Tobramycin for Therapy of Infections Due to Gram-Negative Bacteria. GABRIEL JAFFE, WILLIAM RAVREBY, BURT R. MEYERS, AND SHALOM Z. HIRSCHMAN..... 75
Biological Assay of Streptonigrin (NSC 45383) in Body Fluids and Tissues of Mice. ROBERT F. PITTILLO AND CAROLYN WOOLLEY..... 82
Susceptibility of Related Vibrios and *Vibrio fetus* to Twelve Antibiotics. J. P. BUTZLER, P. DEKEYSER, AND T. LAFONTAINE..... 86
Quantitative Assay of Pyrazofurin, a New Antiviral, Antitumor Antibiotic. J. E. WESTHEAD AND H. D. PRICE..... 90
Selective Phosphorylation of the 5''-Hydroxy Group of Ribostamycin by a New Enzyme from *Pseudomonas aeruginosa*. MAKOTO KIDA, SEIZI IGARASI, TETSUYA OKUTANI, TSUNEHIKO ASAKO, KENTARO HIRAGA, AND SUSUMU MITSUHASHI..... 92
Cell Wall Alterations of Gram-Negative Bacteria by Aminoglycoside Antibiotics. KYOKO IIDA AND MASAATSU KOIKE..... 95
Lysis of Enterococcal L-Forms by Phenylethyl Alcohol. JAMES R. KING..... 98

Volume 5 Contents for February Number 2

Potentiation of the Antibacterial Effect of Methenamine by Acetohydroxamic Acid. DANIEL M. MUSHER, DONALD P. GRIFFITH, MICHAEL TYLER, AND ALAN WOELFEL..... 101
Interaction Between Acetohydroxamic Acid and 12 Antibiotics Against 14 Gram-Negative Pathogenic Bacteria. DANIEL M. MUSHER, CORANDO SAENZ, AND

DONALD P. GRIFFITH 106
Usefulness of an Erythromycin-Resistant Strain of *Mycoplasma pneumoniae* for the Fermentation-Inhibition Test. YASUTAKA NIITU, SUMIO HASEGAWA, AND HIDEO KUBOTA 111
Comparative Therapeutic and Pharmacological Evaluation of Amoxicillin and Ampicillin Plus Probenecid for the Treatment of Gonorrhea. WALTER W. KARNEY, MARVIN TURCK, AND KING K. HOLMES 114
Administration of Ticarcillin, a New Antipseudomonal Antibiotic, in Patients Undergoing Dialysis. R. WISE, D. S. REEVES, AND A. S. PARKER 119
Biosynthesis of Fosfomycin by *Streptomyces fradiae*. THOMAS O. ROGERS AND JEROME BIRNBAUM 121
Comparative Clinical Study of Tobramycin and Gentamicin. J. KLASTERSKY, C. HENSGENS, A. HENRI, AND D. DANEAU 133
Evaluation of Rifamycin SV and Rifampin Kinetics in Lactating Ewes. G. ZIV AND F. G. SULMAN 139
Activity of BB-K8 (Amikacin) Against Clinical Isolates Resistant to One or More Aminoglycoside Antibiotics. K. E. PRICE, T. A. PURSIANO, M. D. DEFURIA, AND G. E. WRIGHT 143
Anti-Herpesvirus Action of Isoprinosine. PAUL GORDON, BRUCE RONSEN, AND ERIC R. BROWN 153
Antimicrobial Resistance and R Factors in *Salmonella* Isolated in California (1971–1972). M. L. BISSETT, S. L. ABBOTT, AND RONALD M. WOOD 161
Trimethoprim Action and Its Analogy with Thymine Starvation. S. G. B. AMYES AND J. T. SMITH 169
Action of a Basic Copolymer of Ornithine and Leucine on Cells of *Staphylococcus aureus*. AVNER SHENFELD, HAROLD M. FLOWERS, AND EPHRAIM KATCHALSKI 179
R Factor-Mediated and Chromosomal Resistance to Ampicillin in *Escherichia coli*. A. ROUPAS AND J. S. PITTON 186
Double-Blind Comparison of Phlebitis Produced by Cephalothin Infusions with Buffered and Unbuffered Diluents. JAIME CARRIZOSA, MATTHEW E. LEVISON, AND DONALD KAYE 192
Expression of R Factor-Mediated Resistance to Tetracycline in *Escherichia coli* Minicells. T. J. FRANKLIN AND S. J. FOSTER 194
Responses of the Murine Myeloid Colony-Forming Cell to Ansamycin Antibiotics. JULIUS S. HOROSZEWICZ AND WILLIAM A. CARTER 196
Properties of Silver Sulfadiazine-Resistant *Enterobacter cloacae*. HERBERT S. ROSENKRANZ, JOE E. COWARD, THEODORE J. WLODKOWSKI, AND HOWARD S. CARR 199

Volume 5 **Contents for March** **Number 3**

Separation of Erythromycin-Resistant and -Susceptible Subpopulations of *Escherichia coli* 15 by Partition in Two-Polymer Aqueous Phases. LAWRENCE G. WAYNE AND HARRY WALTER 203
Antibiotic Disk Susceptibility Tests with *Neisseria gonorrhoeae*. THOMAS W. MAIER, HENRY R. BEILSTEIN, AND LEONARD ZUBRZYCKI 210
Protection of *Escherichia coli* from Isoniazid Inhibition. GERALD J. TRITZ 217
Semiautomated Turbidimetric Microbiological Assay for Determination of Cefazolin. DONALD PITKIN, PAUL ACTOR, WALTER HOLL, ALEX POST, AND JERRY A. WEISBACH 223
Antibiotic Susceptibility of *Streptococcus bovis* and Other Group D Streptococci Causing Endocarditis. CLYDE THORNSBERRY, C. N. BAKER, AND R. R. FACKLAM 228
Chemical Characterization of Ethambutol Binding to *Mycobacterium smegmatis*. WILLIAM H. BEGGS AND FRED A. ANDREWS 234
Alteration of Tyrosine Aminotransferase Activity in Hepatoma Cells in Tissue Culture by Amphotericin B. SAM T. DONTA 240

Double-Blind Comparison of Cephacetrile with Cephalothin/Cephaloridine. GEORGE GEE JACKSON, LOUISE J. RIFF, VICTORIA M. ZIMELIS, MOHAMMAD DAOOD, AND MOHAMMED YOUSSUF 247
Antibiotics as Probes of Ribosome Structure: Binding of Chloramphenicol and Erythromycin to Polyribosomes; Effect of Other Antibiotics. SIDNEY PESTKA 255
Antimicrobial Susceptibility of *Streptococcus mutans* Isolated from Patients with Endocarditis. CAROLYN N. BAKER AND CLYDE THORNSBERRY 268
Rosamicin: Evaluation In Vitro and Comparison with Erythromycin and Lincomycin. CHRISTINE C. CROWE AND W. EUGENE SANDERS, JR. 272
Treatment of Anaerobic Bacterial Infections with Clindamycin-2-Phosphate. MATTHEW E. LEVISON, JOSE L. BRAN, AND KRISTEN RIES 276
Dissociation Between Results of In Vitro and In Vivo Antibiotic Susceptibility Tests for Some Strains of *Pseudomonas aeruginosa*. STARKEY D. DAVIS 281
Efficacy of Trimethoprim and Sulfamethoxazole in the Prevention and Treatment of *Pneumocystis carinii* Pneumonitis. WALTER T. HUGHES, PAUL C. MCNABB, THOMAS D. MAKRES, AND SANDOR FELDMAN 289
Rate of Binding of Antibiotics to Canine Serum Protein. N. WATERMAN, L. SCHARFENBERGER, AND M. J. RAFF 293
Effect of Pipecolic Acid Isomers on the Biogenesis of Actinomycins. W. STRATFORD MAY, JR., AND JOSEPH V. FORMICA 296
Susceptibility of Pathogenic Actinomyces to Antimicrobial Compounds. PHILLIP I. LERNER 302
R Factors in Strains of *Salmonella typhi* and *Shigella dysenteriae* 1 Isolated During Epidemics in Mexico: Classification by Compatibility. NAOMI DATTA AND J. OLARTE 310
Herpes Simplex Virus Skin Infection in Hairless Mice: Treatment with Antiviral Compounds. RICHARD J. KLEIN, ALVIN E. FRIEDMAN-KIEN, AND EILEEN BRADY 318
Methods for Evaluating Topical Antibacterial Agents on Human Skin. R. R. MARPLES AND A. M. KLIGMAN 323
Entry of Four Tetracyclines into Saliva and Tears. PAUL D. HOEPRICH AND DAVID M. WARSHAUER 330
Thermal Inactivation as a Means of Inhibiting the Serum-Associated Deamination of 9-β-D-Arabinofuranosyladenine in Tissue Culture Media. PAULINE M. SCHWARTZ, CHARLES SHIPMAN, JR., ROGER H. CARLSON, AND JOHN C. DRACH 337
Synergistic Action of Ampicillin and Erythromycin Against *Nocardia asteroides*: Effect of Time of Incubation. MAXWELL FINLAND, MICHAEL C. BACH, CAROL GARNER, AND OLGA GOLD 344
Preparation of Succinyl Neocarzinostatin. HIROSHI MAEDA 354

Volume 5 — Contents for April — Number 4

Proposed Standardized Method for Testing and Interpreting Susceptibility of *Bacteroides fragilis* to Tetracycline. SUE B. OVERMAN, DWIGHT W. LAMBE, JR., AND JOHN V. BENNETT 357
Screening Method of Agents Against the R Factor by the Use of an Hfr Made by Integrative Suppression with an R Factor. MASANOSUKE YOSHIKAWA 362
Human Pharmacology of 6-[D-α(3-Guanylureido)-Phenylacetamido]-Penicillanic Acid (BL-P1654). GERALD P. BODEY, NOBORU HORIKOSHI, AND VICTORIO RODRIGUEZ 366
Rifampin: Inhibition of Ribonucleic Acid Synthesis After Potentiation by Amphotericin B in *Saccharomyces cerevisiae*. E. BATTANER AND B. VIJAYA KUMAR 371
Molecular Basis for the Selective Toxicity of Amphotericin B for Yeast and Filipin for Animal Cells. JANINA KOTLER-BRAJTBURG, H. D. PRICE, GERALD MEDOFF, DAVID SCHLESSINGER, AND GEORGE S. KOBAYASHI 377
Immunological Responsiveness of Tuberculosis Patients Receiving Rifampin. F. L.

RUBEN, A. WINKELSTEIN, AND I. G. FOTIADIS 383
Alterations in Dihydropteroate Synthetase in Cell-Free Extracts of Sulfanilamide-Resistant *Neisseria meningitidis* and *Neisseria gonorrhoeae*. RICHARD I. HO, LEONARD CORMAN, STEPHEN A. MORSE, AND MALCOM S. ARTENSTEIN 388
Effects of Some Antiviral Isatinisothiosemicarbazones on Cellular and Viral Ribonucleic Acid Synthesis in Mengovirus-Infected FL Cells. MARION TONEW AND E. TONEW 393
Inactivation of Herpes Simplex Virus by Thiosemicarbazones and Certain Cations. WARREN LEVINSON, VIRGINIA COLEMAN, BRUCE WOODSON, ALAN RABSON, JEFF LANIER, JACK WHITCHER, AND CHANDLER DAWSON 398
Evaluation of Isoprinosine in Experimental Human Rhinovirus Infection. DONALD M. PACHUTA, YASUSHI TOGO, RICHARD B. HORNICK, ANDREW R. SCHWARTZ, AND SUKETAMI TOMINAGA 403
Treatment of Poxvirus Infections in Rabbits with 9-β-D-Arabinofuranosyladenine. RICHARD J. KLEIN, ALVIN E. FRIEDMAN-KIEN, AND EILEEN BRADY 409
Enhanced Toxicity for Mice of 6-Mercaptopurine with Bacterial Endotoxin. NELDA M. MARECKI AND S. G. BRADLEY 413
Studies on the Mechanism of Action of Miconazole: Effect of Miconazole on Respiration and Cell Permeability of *Candida albicans*. K. H. SREEDHARA SWAMY, M. SIRSI, AND G. RAMANANDA RAO 420
Effect of Certain Polypeptides on the Biological Activities of Measles Virus. ERLING NORRBY AND HANS SIEVERTSSON 426
Regulation of the Formation of Alkaline Phosphatase During Neomycin Biosynthesis. SUSANTA KR. BANDYOPADHYAY AND S. K. MAJUMDAR 431

Volume 5 — Contents for May — Number 5

Amikacin (BB-K8) Treatment of Multiple-Drug-Resistant *Proteus* Infections. PHILIP M. SHARP, CORANDO A. SAENZ, AND R. RUSSELL MARTIN 435
In Vitro Susceptibility of *Shigella* Strains to Trimethoprim and Sulfamethoxazole. RAUL C. RUDOY, JOHN D. NELSON, AND KENNETH C. HALTALIN 439
Comparison of the Distribution of Tobramycin and Gentamicin in Body Fluids of Dogs. JAMES J. SZWED, FRIEDERICH C. LUFT, H. R. BLACK, ROGER A. ELLIOTT, AND STUART A. KLEIT 444
Effect of Ethylenediaminetetraacetic Acid and Related Chelating Agents on Whole Cells of Gram-Negative Bacteria. H. HAQUE AND A. D. RUSSELL 447
Synergistic Effect of Pactamycin and Sparsomycin on *Mycoplasma*-Induced Lethal Toxicity of Mice. MICHAEL G. GABRIDGE 453
Rapid Disk Test for Determining Clindamycin Serum Levels. DANIEL F. LIBERMAN, JUDE FITZGERALD, AND RICHARD G. ROBERTSON 458
Susceptibility of Anaerobic Bacteria to Carbenicillin. DONNA J. BLAZEVIC AND JOHN M. MATSEN 462
Microbiological Agar Diffusion Assay for Metronidazole Concentrations in Serum. MATTHEW E. LEVISON 466
Antileishmanial Effect of Allopurinol. MICHAEL A. PFALLER AND J. JOSEPH MARR 469
Combined Amphotericin B-Tetracycline Therapy for Experimental Coccidioidomycosis. M. HUPPERT, SUNG H. SUN, AND KATHERINE R. VUKOVICH 473
Antiviral Activity of 3-Methyleneoxindole. V. TULI, H. S. MOYED, D. STEVENSON, AND I. GORDON 479
Mechanism of the Antiviral Action of 3-Methyleneoxindole. V. TULI 485
Effect of R-Factor-Mediated Drug-Metabolizing Enzymes on Survival of *Escherichia coli* K-12 in the Presence of Ampicillin, Chloramphenicol, or Streptomycin. A. K. LUNDBÄCK AND K. NORDSTRÖM 492
Mutations in *Escherichia coli* K-12 Decreasing the Rate of Streptomycin Uptake: Synergism with R-Factor-Mediated Capacity to Inactivate Streptomycin.

A. K. Lundbäck and K. Nordström 500
Pharmacology of Amikacin in Humans. Gerald P. Bodey, Manuel Valdivieso, Ronald Feld, and Victorio Rodriguez 508
In Vitro Development of Resistance to Erythromycin, Other Macrolide Antibiotics, and Lincomycin in *Mycoplasma pneumoniae*. Yasutaka Niitu, Sumio Hasegawa, and Hideo Kubota 513
Isolation, Characterization, and Action of Colicin M. Volkmar Braun, Klaus Schaller, and Matthias Wabl 520
Characterization of a Plasmid Determining Resistance to Erythromycin and Vernamycin B_α in a Strain of *Streptococcus pyogenes*. Don B. Clewell and Arthur Franke 534
Mutant of *Staphylococcus aureus* with Lincomycin and Carbomycin-Inducible Resistance to Erythromycin. Teruo Tanaka and Bernard Weisblum 538
Detection of an R Factor Showing Temperature-Sensitive Transfer in *Salmonella typhimurium* Isolated from Calves. Gihei Sato, Hiroshi Kodama, and Nobuyuki Terakado 541
Effect of Carbon Dioxide on Synthesis of Erythromycin. Claude H. Nash III 544

Erratum 546

Volume 5

Contents for June

Number 6

Demonstration of R Factors from *Pseudomonas aeruginosa*. Shizuko Iyobe, Katsumi Hasuda, Aisaku Fuse, and Susumu Mitsuhashi 547
Inactivation of Dihydrostreptomycin and Spectinomycin by *Staphylococcus aureus*. Haruhide Kawabe, Matsuhisa Inoue, and Susumu Mitsuhashi 553
Enzymatic Inactivation of a New Aminoglycoside Antibiotic, Sisomicin, by Resistant Strains of *Pseudomonas aeruginosa*. K. O'Hara, M. Kono, and S. Mitsuhashi 558
Alleged Effect of Bile Constituents on Gentamicin Assays. D. R. McDonald and Pamela M. Waterworth 562
Gentamicin-Adenylyltransferase Activity as a Cause of Gentamicin Resistance in Clinical Isolates of *Pseudomonas aeruginosa*. S. Kabins, C. Nathan, and S. Cohen 565
Synergy Between Cephalosporin and Aminoglycoside Antibiotics Against *Providencia* and *Proteus*. Phineas J. Hyams, Michael S. Simberkoff, and James J. Rahal, Jr. 571
New Antibiotic Produced by Bacteria, 5-β-D-Xylofuranosylneamine. Satoshi Horii, Ikuo Nogami, Nariakira Mizokami, Yoshiaki Arai, and Masahiko Yoneda 578
Mechanism of Silver Sulfadiazine Action on Burn Wound Infections. Charles L. Fox, Jr., and Shanta M. Modak 582
Susceptibility of *Clostridium ramosum* to Antimicrobial Agents. Francis P. Tally, Ann Y. Armfield, V. R. Dowell, Jr., Yung-Yuan Kwok, Vera L. Sutter, and Sydney M. Finegold 589
Plasmid-Mediated Production of Staphylococcin in Bacteriophage Type 71 *Staphylococcus aureus*. Adnan S. Dajani and Zaiga Taube 594
Comparison and Evaluation of Carbenicillin Disks in Diffusion Susceptibility Testing. John M. Matsen, Marlys E. Lund, and Doris C. Brooker 599
Potential Unreliability of Nitrofurantoin Disks in Susceptibility Testing. Robert Hoo and W. Lawrence Drew 607
Pharmacokinetics of Tobramycin in Patients with Stable Renal Impairment, Patients Undergoing Peritoneal Dialysis, and Patients on Chronic Hemodialysis. Gabriel Jaffe, Burt R. Meyers, and Shalom Z. Hirschman 611
Chromatography of Penicillins, Penicilloates, and Penicilloylamides on Dextran Gels. Newton E. Hyslop, Jr., and Richard J. Milligan 617
Technique for Determining the Bactericidal Effect of Drug Combinations. Victor Lorian and Georgeta Fodor 630

Antibiotic Produced by *Fusarium equiseti* NRRL 5537. H. R. BURMEISTER, G. A. BENNETT, R. F. VESONDER, AND C. W. HESSELTINE 634
Alteration of Contractile Function and Calcium Ion Movements in Vascular Smooth Muscle by Gentamicin and Other Aminoglycoside Antibiotics. H. RICHARD ADAMS, FRANK R. GOODMAN, AND GEORGE B. WEISS 640
Effect of Clindamycin on Acute and Chronic Toxoplasmosis in Mice. FAUSTO G. ARAUJO AND JACK S. REMINGTON 647
In Vitro Antiviral Activity of 6-Substituted 9-β-D-Ribofuranosylpurine 3′,5′-Cyclic Phosphates. ROBERT W. SIDWELL, JOHN H. HUFFMAN, LOIS B. ALLEN, RICH B. MEYER, JR., DENNIS A. SHUMAN, LIONEL N. SIMON, AND ROLAND K. ROBINS 652
Chemotherapy of an Experimental *Fusobacterium* (*Sphaerophorus*) *necrophorum* Infection in Mice. TRACEY D. WILKINS AND LOUIS DS. SMITH 658
Effect of Penicillin on the In Vivo Formation of the D-Alanyl-L-Alanine Peptide Cross-Linkage in Cell Walls of *Micrococcus luteus*. DAVID MIRELMAN AND RIVKA BRACHA 663
In Vitro Comparison of Four Aminoglycoside Antibiotics: Sisomicin, Gentamicin, Tobramycin, and BB-K8. MATTHEW E. LEVISON AND DONALD KAYE 667
BRL .8988 (Talampicillin[1]), a Well-Absorbed Oral Form of Ampicillin. J. P. CLAYTON, M. COLE, S. W. ELSON, AND H. FERRES 676
Iododeoxyuridine and Herpesviral Encephalitis: Lack of Inhibitory Action Against Low-Grade Viral Replication. G. PLUMMER AND ANN P. INGERSON 672
Erratum 674

INDEX TO DATE OF ISSUE

Month	Date of Issue	Pages
January	25 January 1974	1–100
February	1 March 1974	101–202
March	29 March 1974	203–356
April	23 April 1974	357–434
May	23 May 1974	435–546
June	26 June 1974	547–674

AUTHOR INDEX

VOLUME 6

Aaronson, S. A., 773, 918
Actor, Paul, 150
Alpert, Susan, 572
Andrillon-Spiegel, Jane, 676
Ånséhn, Steffan, 529
Aoki, Bunya, 207
Aoki, Takashi, 534
Arai, Toshihiko, 534
Awaya, Juichi, 207, 387

Bacaner, Hadassah, 501
Bacchi, C. J., 785
Bailey, Elizabeth J., 598
Bailey, Janet V., 415
Banfi, E., 655
Bannister, Thomas, 471
Barabás, Gy., 11
Barker, S. A., 777
Barnett, M. S., 651
Barranco, S. D., 637
Barry, Arthur L., 452
Basch, H. I., 263
Baxter, Charles R., 492
Becker, R. O., 637
Beilstein, Henry R., 22
Benitez, Pamela, 29
Berger, T. J., 637
Best, Gary K., 825
Best, Norma H., 825
Bhaskaran, K., 375
Bickham, Susan, 166
Block, Edward R., 324
Boldur, Ida, 117
Bowmer, M. Ian, 274
Bremner, D. A., 418
Brumfitt, William, 290
Bryan, L. E., 191
Bryant, Richard E., 702
Bryson, Yvonne, 98
Buchanan, Robert, 98, 630
Bullock, Ward E., Jr., 831
Burdick, John R., 460
Byrd, Daniel M., 594

Calia, Frank M., 442
Canfield, Craig J., 16
Capone, J. J., 334
Carey, Sharen, 98, 630
Carleton, Judith, 551
Carlson, W. H., 114
Carter, William A., 594
Chapin, S. E., 637
Chenoweth, Maymie E., 821
Chevli, Rekha, 757
Chipman, Diane C., 379
Chodubski, J. A., 124
Chopra, I., 397
Chow, Anthony W., 327
Clarke, John T., 691, 729
Cocito, C., 136
Cohen, Sidney, 516
Connolly, Janet, 397
Connor, James D., 98, 630
Cooperstock, Michael S., 422
Corner, Thomas R., 712
Crowder, Ellen D., 783
Curtis, N. A. C., 666

Dacey, Ralph G., 437
Danish, Michele, 841
Dann, Raymond E., 811
Datta, Naomi, 418
Dawson, Chandler R., 613
de Carvalho, G. D. F., 785
Deig, E. Frank, 524
Demain, Arnold L., 366
Dick, V., 659
Dorfman, S. L., 754
Dray, Marie, 320
Duančić, Ana, 512
Durand, D. P., 460

Effinger, Lee J., 452
Egusa, Syuzo, 534
Ehresmann, Douglas W., 524
El-Alfy, Taha S., 225
El-Fatatry, Hamed M., 225
Emerson, Barbara B., 316
Engberg-Pedersen, H., 554
Enloe, F., 697
Ensminger, P. W., 432
Ervin, F. Richard, 831

Fare, Louis R., 150
Farrar, W. Edmund, Jr., 625
Fass, Robert J., 582
Fisher, M. W., 124
Fitch, Coy D., 757
Fiumara, Nicholas J., 512
Fox, M. P., 747
Frederick, John J., 712
Furukawa, Tokio, 207

Gadebusch, H. H., 263, 268
Gerhardt, Philipp, 712
Gilchrist, James N. G., 290
Girgis-Takla, Pamela, 372
Glotzbecker, Cheryl, 802
Goldberg, A. D., 338
Goldberg, B., 785
Gonzalez, Yolanda, 757
Goodwin, C. Stewart, 338
Gordee, R. S., 432
Gordon, R. C., 114
Goslings, Wim R. O., 300
Gould, Kenneth, 253
Greene, William H., 442
Griffith, Donald P., 708
Grossowicz, Nathan, 369
Gupta, V. S., 393
Guze, Lucien B., 324

Haag, William L., 76
Hamilton-Miller, Jeremy M. T., 290
Hammes, Walter P., 722
Hammond, Dianne, 702
Hanka, L. J., 651
Haque, H., 200
Harmon, Maurice W., 507
Hartman, Rae E., 551
Hatch, Melvin T., 524
Heather, Carl D., 166
Heifetz, C. L., 124
Holmes, D. H., 432
Holmes, Randall K., 253, 492
Holmes, T. M., 411
Hori, Mitsuo, 49
Hornick, Richard B., 442
Horoszewicz, Julius S., 594
Huber, W. G., 697
Huempfner, Herman R., 1
Hutner, S. H., 785
Hyland, Robert N., 783

Ichikawa, Akira, 672
Ikeda, Yasuhiko, 156
Irvin, George L., III, 426
Isaacson, R. E., 848
Iyer, S. S., 375

Jacoby, George A., 239, 807
James, A. L., 543
James, Dinah M., 372
Janis, Burton, 507
Joloza, McDonald, 150
Jones, Wallis L., 166
Jusko, William J., 841

Kashman, Y., 539
Katagiri, Michiko, 207
Katz, Ehud, 647
Kawai, Yoko, 347
Kawata, Shigeo, 156
Kaye, Donald, 465
Kennedy, J. F., 777
Kent, Ralph L., 791
Kesado, Tadataka, 387
Khachatourians, George G., 304
Khan, A. W., 375
Kim, Sang J., 102, 405

Kirby, William M. M., 691, 729
Kirchoff, Carol, 862
Kirven, Linda A., 602, 653, 869
Kita, Yasuo, 685
Klainer, A. S., 216
Kluge, Ronica M., 442
Kobayashi, George S., 29, 770
Kondo, Takao, 685
Konisky, J., 848
Kontomichalou, Polyxeni., M 60
Kosmidis, John, 290
Kotani, Shozo, 672
Kotler-Brajtburg, Janina, 770
Koval, Ann V., 825
Kristensen, E., 563
Kunz, Lawrence J., 320
Kwon-Chung, K. J., 102, 405

Labovitz, Elizabeth, 465
Lacey, R. W., 397
Lambros, C., 785
Lanier, Jeffrey D., 613
Lauter, Carl B., 598
Lawrence, Paul J., 815
Lee, Yhu-Hsiung, 512
Le Goffic, François, 676, 680
LeMahieu, Ronald A., 39, 497, 489
Leong, Susan S., 594
Lerner, A. Martin, 598
Letarte, Robert, 676
Levis, Gabriel M., 60
Levison, Matthew E., 465
Levy, Hilton B., 507
Libke, Robert D., 691, 729
Lifshitz, A., 539
Lillich, Thomas T., 572
Lowery, D. L., 763
Luthy, Ruedi P., 691, 729

McCormick, Gerald J., 16
McCormack, William M., 512
McRipley, R. J., 268
Maier, Thomas W., 22
Mandelbaum-Shavit, Frederika, 369
Mao, J. C.-H., 360
Marengo, Paul B., 498, 821
Margalith, Eva, 647
Marks, Melvin I., 34
Marquez, J. A., 144
Martel, Annie, 680
Martin, C. M., 338
Masuda, Kunitsugu, 46
Masurekar, Prakash S., 366
Matsen, John M., 501
Matsuzawa, Tai, 685
Mattie, Herman, 300
Medeiros, Antone A., 791
Medoff, Gerald, 29, 770
Meldrum, J. B., 393
Mendelson, J., 659
Menzel, F., 579
Meyer, Marvin C., 811
Michaelson, J., 754
Miller, Louis W., 166
Miller, Philip, 489
Milne, G. W. A., 405
Minshew, Barbara H., 253, 492
Minuth, J. N., 411
Mitsuhashi, Susumu, 836
Miyamoto, Sharon, 327
Mizoguchi, Masakazu, 207
Moellering, Robert C., Jr., 320
Monti-Bragadin, C., 655
Morgan, J. H., 747, 754
Morris, Roy H., 166
Moss, E. L., Jr., 579
Motley, Milwood, 856
Musher, Daniel M., 411, 708

Nagarajan, R., 334
Nakagawa, Akira, 606
Nauta, Ernst H., 300
Neu, Harold C., 73, 170, 177
Neuhaus, Francis C., 722
Nielsen, B., 563
Nishimura, Shinzo, 156
Nomura, Setsuzo, 387
Nord, Carl-Erik, 521
Nordström, Kurt, 734, 741

O'Brien, Thomas F., 791
O'Dell, Noel M., 625
O'Dell, W. D., 282
Oden, Edwin M., 316
Oh, Jang O., 613
Ohno, Tadao, 387
Ōi, Nobuhiro, 207
Olsen, Ronald H., 183
Ōmura, Satoshi, 207, 387, 606
Overby, L. R., 360
Overturf, Gary D., 498, 643, 821

Pansy, F., 268
Papachristou, Efstathia G., 60
Pauls, John F., 150
Pearson, I. A., 124
Pennington, James E., 324
Pestka, Sidney, 39, 474, 479, 489, 606
Pfau, C. J., 747, 754
Phair, John P., 551
Phillips, Lillian, 150
Pien, F. D., 330
Pisano, Michael A., 447
Portnoy, J., 659
Prescott, B., 405
Prior, Richard B., 582, 853

Queener, S. W., 334

Raahave, Dennis, 603
Radue, A. B., 334
Raftery, E. B., 338
Ralph, Edward D., 691, 729
Ratzan, Kenneth R., 426
Ressler, R., 643
Reynolds, Herbert Y., 324
Richmond, M. H., 666
Riedlinger, Delimar J., 524
Rifkind, David, 783
Robinson, J. V. A., 543
Robishaw, E. E., 360
Robson, Hugh G., 274
Rogers, A. H., 547
Roholt, K., 563
Romero, E., 121
Rosenblatt, J. E., 84, 93
Rosner, Bernard, 512
Rotilie, Carol A., 582
Rotstein, A., 539
Rueter, A., 360
Ruiz, Carlos, 426
Russell, A. D., 200
Russell, R. R. B., 216

Sabatelli, F., 579
Sabath, L. D., 54
Sachithanandam, S., 763
Sachs, Carl, 150
Sande, Merle A., 437
Sanders, Christine C., 232
Sanders, W. Eugene, Jr., 232
Sanford, Jay P., 253, 492
Saunders, J. R., 393
Saz, A. K., 763
Schimpff, Stephen C., 442
Schleicher, J. B., 360
Schlessinger, David, 770
Schneider, M., 516
Schoutens, E., 227
Schultz, Robert, 841
Scotti, R., 121
Semar, R., 268
Shadomy, Smith, 856, 862
Shahrabadi, M. S., 191
Shilo, M., 136
Shindo, Minoru, 207
Shipkowitz, N. L., 360
Shipley, Patricia L., 183
Shoji, Ko, 49
Siegel, D., 697
Siegel, Stuart E., 501
Sigman, H., 659
Silverman, C. A., 124
Silvestri, L. G., 121
Skeggs, H., 338
Slywka, Gerald W. A., 811
Smith, Arnold L., 316
Smith, David H., 316
Smith, J. T., 418
Sompolinsky, David, 117
Spadaro, J. A., 637
Standiford, Harold C., 442
Staneck, Joseph L., 361
Stella, J. P., 747, 754
Stevens, A. R., 282
Stevens, L. I., 114
Stewart, P. R., 84, 93
Stiffler, Paul W., 516

Stuckey, Margaret A., 98, 630
Suginaka, Hidekazu, 672
Sweeney, H. M., 516
Sweetman, Lawrence, 98, 630
Sykes, Richard B., 734, 741
Szabó, G., 11
Szeszák, F., 11

Tamaro, M., 655
Tärnvik, Arne, 529
Tarr, Philip I., 512
Tatem, Beverly, 442
Terakado, Nobuyuki, 836
Testa, R. T., 144
Thompson, T. R., 114
Thornsberry, Clyde, 620, 653, 869
Till, A. E., 338
Tipper, D. J., 304
Toama, Mohamed A., 225
Toftegaard, Inge, 54
Torstenson, Ordean, 501
Trust, T. J., 379
Tucker, Anne N., 572

Umezawa, Iwao, 207

Van Den Elzen, H. M., 191
Vellozzi, E. M., 447
Verbist, L., 588
Vidaver, Anne K., 76
Vora, V. C., 375
Vosti, K. L., 330

Wadström, Torkel, 521
Wagman, Gerald H., 144, 415
Wagner, Gerald, 862
Waitz, J. Allan, 316, 579
Warner, John F., 853
Washington, John, II, 311, 526
Watanakunakorn, Chatrchai, 471, 802
Weinstein, M. J., 144
Weinstein, Marvin J., 415
Weisbach, Jerry A., 155
Whitcher, John P., 613
Whyatt, Philip L., 811
Wilkins, Jeanette, 498, 643, 821
Willet, Gloria P., 16
Winer, Bela, 647
Winshell, Elaine B., 73
Witchitz, J., 680
Wretlind, Bengt, 521

Yabu, Kunihiko, 1
Yamada, Takeshi, 46
Yankaskas, K. D., 747
Yokogawa, Kanae, 156
Yoshikawa, Thomas T., 324
Yoshimura, Yoshio, 156
Young, Viola M., 442
Yourassowsky, E., 227
Yu, Pauline K. W., 526

Zamir, A., 777
Zubrzycki, Leonard, 22

SUBJECT INDEX

VOLUME 6

Acanthamoeba, 282
Acylphloroglucinols, 539
Adenine arabinoside
  activity in herpesviruses, 93
  effect of adenosine deaminase on, 630
Adenosine deaminase, 630
Amikacin
  activity against *P. aeruginosa*, 442
  microbiological assay for, 498
  resistance in *Pseudomonas aeruginosa*, 807
Aminoglycosides, 415
Amodiaquin, 757
Amoxycillin, 588
Amphotericin B
  characterization of binding to *Saccharomyces cerevisiae*, 770
  effect on lymphocyte stimulation, 529
  in bronchial secretions, 324
  inhibition of *Coccidioides immitis* by, 783
Ampicillin
  assay for low levels after oral administration, 811
  bactericidal action on *B. fragilis*, 227
  human pharmocokinetics of, 729
  resistance in *Haemophilus influenzae*, 653
  resistance of *S. sonnei* to, 418
  study on absorption and excretion of, 588
Amylase, 507
Antibacterial drugs, 697
Anti-beta-lactamase antibodies, 676
Antibiotic
  resistance in *N. gonorrhoeae*, 22
  resistance mutations in *M. smegmatis*, 46
  susceptibility in *H. influenzae*, 114
Antibiotic G-418
  biological activity of, 579
  fermentation, isolation, and characterization, 144
Antibiotics, 379
Antimicrobial agents
  resistance in *S. marcescens*, 73
  susceptibility of mycobacteria and fungi to, 29
Antistaphylococcal antibiotics, 802
Antiviral drugs, 34
Aspergillus fennelliae
  identification of sterols in, 405
  polyene-resistant mutants of, 102

Bacillus megaterium
  inhibition of forespore development in, 815
  inhibition of respiration in, 712
Bacteria
  antimicrobial susceptibilities of, 311
  susceptibility to cefoxitin and cephalothin, 320
Bacteroides corrodens, 543
Bacteroides fragilis, 227
Benzathine penicillin, 501
Benzylpenicillin, 741
Beta-lactam drugs, 60
Beta-lactamases, 60
Bis-benzimidazoles
  evaluation in treatment of murine lymphocytic choriomenigitis virus infection, 754
  inhibition of arenavirus synthesis by, 747
BL-P1654
  activity against *P. aeruginosa*, 471
  evaluation against *Pseudomonas*, 643
  human pharmacokinetics of, 729
Bordetella bronchiseptica, 836
Butirosin
  compared with gentamicin, 124
  phosphorylation by *Providencia stuartii*, 821
  resistance in *Pseudomonas aeruginosa*, 807

Carbenicillin
  activity against *P. aeruginosa*, 471
  bactericidal action on *B. fragilis*, 227
  effects on transpeptidase and D-alanine carboxypeptidase activities, 672
  evaluation against *Pseudomonas*, 643
Cefamandole, 177
Cefazolin
  biliary tract excretion of, 426
  in vitro studies with, 856
Cefoxitin
  antibacterial spectrum, 170
  antimicrobial activity, human pharmacokinetics, and toxicology, 290
  compared with cephalothin, 338
  susceptibility of bacteria to, 320
Cellulose-metal chelates, 777
Cephalexin, 501
Cephaloridine, 426
Cephalosporin C, 447
Cephalosporins, 150
Cephalosporium acremonium, 334
Cephalothin
  antimicrobial activity, human pharmacokinetics, and toxicology, 290
  biliary tract excretion of, 426
  compared with cefoxitin, 338
  pharmacology in the biliary tract of humans, 659
  susceptibility of bacteria to, 320
Cephanone, 862
Cepharin, 274
Cerulinen, 207
Chloroquine, 757
Cinoxacin, 432
Clindamycin
  assay in the presence of aminoglycosides, 831
  effect on gentamicin, 54
  interaction with gentamicin, 582
  microassays for, 54
Clotrimazole, 529
CM-55, 387

Coccidioides immitis, 783
Colicin Ib, 848
Corynebacterium diphtheriae, 166
Crithidia fasciculata, 785
Cytosine arabinoside, 598

Deactoxycephalosporin C, 334
Diazoacetylglycine, 655
Diminazene, 372
Doxycycline, 411
Drug serum levels, 554

Eikenella corrodens, 543
Endotoxin, 422
Enterobacter cloacae, 492
Enterobacteriaceae, 452
Erythromycin
  binding to *E. coli* ribosomes, 474, 479, 489, 606
  effect on *C. diphtheriae*, 166
  effect on [^{14}C]chloramphenicol binding to *E. coli* ribosomes, 39
Escherichia coli
  [^{14}C]chloramphenicol binding to ribosomes of, 39
  [^{14}C]erythromycin binding to ribosomes of, 474, 479, 489
  effect of R-factor-mediated genes on, 666
  effect on binding erythromycin to, 606
  effects of thiolutin on, 304
  enzymatic acetylation of gentamicin, tobramycin, and kanamycin, 680
  protein synthesis in cell envelope of, 216
  resistance to beta-lactam antibiotics in, 791
Everninomicin, 232

5-Fluoracytosine
  activity on *Acanthamoeba*, 282
  in bronchial secretions, 324
Formaldehyde, 708
Fungi, 29

Gaffkya homari, 722
Gentamicin
  activity against *P. aeruginosa*, 471
  activity of *P. aeruginosa*, 442
  compared with butirosin, 124
  comparison with verdamicin, 526
  effect on clindamycin, 54
  enzymatic acetylation by *Escherichia coli*, 680
  enzymatic and microbiological assays for, 316
  interaction with clindamycin, 582
  microassays for, 54
  pharmacokinetics during hemodialysis, 841
  resistance in *P. aeruginosa*, 191, 239, 257
  therapy in urinary tract infection, 465
Gonorrhea, 512

Haemophilus influenzae
  ampicillin resistance in, 653
  antimicrobial susceptibility of, 620
  beta-lactamase activity in, 625
  susceptibility to antibiotics, 114
  susceptibility to trimethoprin-sulfamethoxazole, 869
Herpesvirus
  activity of adenine arabinoside in, 98
  inhibition of replication by marine algae extracts, 524
  replication inhibition by phosphonacetic acid, 360
  susceptibility to antiviral drugs, 34
Hexochlorophene, 712
5-Hydroxymethyldeoxyuridine, 393
Hydroxyurea, 647

Isometamidium, 372

Kanamycin
  enzymatic acetylation by *Escherichia coli*, 680
  pharmacokinetics during hemodialysis, 841
  phosphorylation by *Providencia stuartii*, 821
  resistance in *Pseudomonas aeruginosa*, 807
  resistance plasmid from *S. aureus*, 516
Klebsiella pneumoniae, 492

Leptomonas, 785
Leucomycin, 606
Lividomycin A, 821

Maytansine, 651
Methenamine, 708
Metronidazole
  pharmacokinetics of, 691
  resistance of *N. Gonorrhoeae* to, 327
Micrococcus denitrificans, 572
Micromonospora, 579
Minocycilne, 411
Minocycline therapy, 551
Mutanolysin, 156
Mycobacteria, 29
Mycobacterium smegmatis
  antibiotic resistance mutations in, 46
  inhibition by D-serine, 1
  inhibition of growth of, 1
Myrtus communis, 539

Neisseria gonorrheae
  antibiotic resistance in, 22
  resistance to metronidazole, 327
Nitrofuran, 263, 268

Oxacillin, 825

Paecilamyces persicinus P-10, 447
Pediococcus cerevisiae, 369
Penicillin
  paper disk-agar diffusion assay, 603
  reversible inhibition of forespore septum development, 815
Penicillin G
  bactericidal action on *B. fragilis*, 227
  effects on transpeptidase and D-alanine carboxypeptidase activities, 672
  in treatment of gonorrhoae, 512
Penicillium avellaneum, 651
Penicillium chrysogenum, 366
Phenoxymethyl penicillin, 501
Phosphonacetic acid, 360
Pivampicillin

clinical pharmacology of, 563
study on absorption and excretion of, 588
Plasmodium falciparum, 757
Plasmodium knowlesi, 16
Polyinosinic-polycytidylic acid, 507
Polymyxin B
activity against gram-negative-bacilli, 84
inactivation of endotoxin, 422
Primaquine diphosphate, 460
Probenecid
effect on CFS concentration of penicillin, 437
effect on distribution and elimination of cloxacillin, 300
Proflavine, 613
Propionylmaridomycin, 685
Providencia stuartii, 821
Pseudomonas
comparative evaluation against, 643
tetracycline resistance induced by R factor of, 183
treatment, 702
Pseudomonas aeruginosa
activity of BL-P1654, gentamicin, and carbenecillin against, 471
activity of tobramycin, amikacin, gentamicin, and carbenecillin against, 442
beta-lactamase biosynthesis in, 734
desk methods for testing susceptibility of, 452
effect of chelating agents on susceptibility of, 200
effects of benzylpenicillin on, 741
gentamicin resistance in, 191, 239, 253
morphological alterations of, 853
penicillin-resistant mechanisms in, 672
properties of an R plasmid in, 807
Pseudomonas cepacia, 521
Pseudomonas maltophilia, 521
Pseudomonas pertucinogena, 347
Pseudomonas syringae 4-A, 76

R plasmidus, 239
Rabies, 507
Rifampin, 783

Saccharomyces cerevisiae, 770
Sarcina lutea, 603
Serratia marcescens, 73
Serum bactericidal test, 330
Shigella sonnei, 418
Silver electrodes, 637
Sisomycin, 807
Spectinomycin hydrochloride, 512
Staphylococcus aureus
bactericidal action of oxacillin on, 825
basis of tetracycline resistance in, 397
formation of beta-lactamase in, 763
kanamycin resistance plasmid from, 516
minocycline therapy, 551
Streptococcus mutans, 547
Streptomyces grisius, 11
Streptomycin, 603
Streptovaricin complex, 594
Sulfamethoxazole
activity against gram-negative bacilli, 84
lack of activity against anaerobic bacteria, 93
Syringacin 4-A, 76

Tetracycline
activity against staphylococci, 411
antigen specific for bacteria resistant to, 117
resistance in *S. aureus*, 397
Thiolutin, 304
Ticarcillin, 853
Tobramycin
activity against *P. aeruginosa*, 442
enzymatic acetylation by *Escherichia coli*, 680
resistance in *K. pneumoniae* and *C. cloacae*, 49
resistance in *Pseudomonas aeruginosa*, 807
Trimethoprim
activity against gram-negative bacilli, 84
lack of activity against anaerobic bacteria, 93
Trimethoprim-sulfamethoxazole, 869
Trypanosoma brucei, 372

Vaccinia virus, 647
Vancomycin, 722
Verdamicin, 526
Vibrio anguillarum, 534
Vibrio cholerae, 375
Virginiamycin, 136

ANTIMICROBIAL AGENTS
AND
CHEMOTHERAPY

VOLUME 6

BALTIMORE, MD. 21202

1974

ANTIMICROBIAL AGENTS AND CHEMOTHERAPY

VOLUME 6 • 1974

EDITORIAL BOARD

GLADYS L. HOBBY, Editor-in-Chief (1975)
U. S. Veterans Administration and the Infectious Disease Research Institute, East Orange, N.J.

WALTER D. CELMER, Editor (1975)
Pfizer Inc., Groton, Conn.

EDWARD W. HOOK, Editor (1976)
University of Virginia, Charlottesville

JOEL G. FLAKS, Editor (1976)
University of Pennsylvania, Philadelphia

LEON H. SCHMIDT, Editor (1979)
Southern Research Institute, Birmingham, Ala.

Theodore Anderson (1976)
Robert Austrian (1974)
John E. Bennett (1976)
Konrad E. Bloch (1975)
D. Buyske (1974)
Bernard E. Cabana (1975)
Charlotte C. Campbell (1976)
Yves Chabbert (1974)
Patricia Charache (1974)
Royston C. Clowes (1976)
Leighton E. Cluff (1974)
Kenneth W. Cochran (1975)
Roger Cole (1976)
Frank Collins (1976)
John Corcoran (1974)
Julian Davies (1976)
Liebor Ebringer (1974)
Theodore Eickhoff (1976)
H. L. Ennis (1974)
David S. Feingold (1975)
Robert J. Fitzgerald (1974)
Anthony J. Glazko (1975)
Irving H. Goldberg (1976)
Harry Gooder (1976)
M. Gorman (1974)
H. Grisebach (1974)
Arthur P. Grollman (1975)
Jack Gwaltney (1974)
Fred Hahn (1976)
William Hewitt (1974)
Ronald D. Hinsdill (1976)
Richard Hornick (1974)
Milton Huppert (1974)
Goerge Gee Jackson (1974)
Keith Jensen (1974)
E. H. Kass (1976)
Donald Kaye (1976)
Wm. Kirby (1976)
Vernon Knight (1974)
Calvin Kunin (1975)
Mark Lepper (1974)
Robert G. Loudon (1974)
L. Bruce Mellett (1976)
Lester Mitscher (1974)
S. Mitsuhashi (1974)
R. B. Morin (1976)
Bernard Moss (1975)
L. Nickell (1974)
Thomas C. Orihel (1976)
T. J. Perun (1974)
Charles A. Plate (1976)
Burton M. Pogell (1975)
K. E. Price (1976)
C. Reilly (1975)
Jack Remington (1976)
R. W. Rickards (1974)
R. W. Riddell (1974)
Richard Roberts (1976)
John Routien (1976)
Merle Sande (1976)
Arthur K. Saz (1976)
F. C. Sciavolino (1976)
Piero Sensi (1974)
John C. Sherris (1976)
Robert W. Sidwell (1975)
David Smith (1974)
Sigmund S. Socransky (1974
Earle Spaulding (1974)
Gene Stollerman (1974)
R. Sutherland (1976)
Morton N. Swartz (1976)
Clyde Thornsberry (1976)
Ralph Tompsett (1976)
Donald Van Harken (1976)
D. Vazquez (1974)
G. H. Wagman (1974)
B. Weisblum (1976)

ROBERT A. DAY, *Managing Editor, 1913 I St., N.W., Washington, D.C. 20006*

EX OFFICIO

PHILIPP GERHARDT, President (1974–1975)
HELEN R. WHITELEY, Vice-President (1974–197
J. MEHSEN JOSEPH, Secretary
T. J. CARSKI, Treasurer

Antimicrobial Agents and Chemotherapy, a publication of the American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006, is devoted to the dissemination of knowledge relating to all aspects of antimicrobial agents and chemotherapy, including cancer chemotherapy. *Antimicrobial Agents and Chemotherapy* is published monthly, and the twelve numbers are divided into two volumes per year. The subscription price is $40 (foreign, $41) per year. Single copies are $4.00 (foreign, $4.25). Members of the American Society for Microbiology may receive *Antimicrobial Agents and Chemotherapy* as part of their dues. Correspondence relating to subscriptions, reprints, defective copies, availability of back issues, lost or late proofs, disposition of submitted manuscripts, and general editorial matters should be directed to the ASM Publications Office, 1913 I St., N.W., Washington, D.C. 20006 (area 202 833-9416). Correspondence from ASM members relating to membership dues, member subscriptions, changes of address, incorrect journals, etc., should be directed to the Executive Secretary, American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006. Published monthly by the ASM at 1913 I St., N.W., Washington, D.C. 20006.

Second class postage paid at Washington, D.C. 20006, and at additional mailing offices.
Made in the United States of America.
Copyright © 1974, American Society for Microbiology
All Rights Reserved.

olume 6 Contents for July Number 1

hibition of Growth of *Mycobacterium smegmatis* and of Cell Wall Synthesis by D-Serine. KUNIHIKO YABU AND HERMAN R. HUEMPFNER 1

ransamidinase Activity of Hyphal Fractions of a Streptomycin-Producing *Streptomyces griseus* Strain and Enhancement of Enzyme Activity in a Nonproducing Mutant. GY. BARABÁS, F. SZESZÁK, AND G. SZABÓ 11

n Vitro Antimalarial Activity of Nucleic Acid Precursor Analogues in the Simian Malaria *Plasmodium knowlesi*. GERALD J. MCCORMICK, CRAIG J. CANFIELD, AND GLORIA P. WILLET 16

Multiple Antibiotic Resistance in *Neisseria gonorrhoeae*. THOMAS W. MAIER, HENRY R. BEILSTEIN, AND LEONARD ZUBRZYCKI 22

Rapid Radiometric Method of Testing Susceptibility of Mycobacteria and Slow-Growing Fungi to Antimicrobial Agents. PAMELA BENITEZ, GERALD MEDOFF, AND GEORGE S. KOBAYASHI 29

Variables Influencing the In Vitro Susceptibilities of Herpes Simplex Viruses to Antiviral Drugs. MELVIN I. MARKS 34

nhibition of [^{14}C]Chloramphenicol Binding to *Escherichia coli* Ribosomes by Erythromycin Derivatives. SIDNEY PESTKA AND RONALD A. LEMAHIEU 39

Pleiotropic Antibiotic Resistance Mutations Associated with Ribosomes and Ribosomal Subunits in *Mycobacterium smegmatis*. TAKESHI YAMADA, KUNITSUGU MASUDA, KO SHOJI, AND MITSUO HORI 46

Rapid Microassays for Clindamycin and Gentamicin When Present Together and the Effect of pH and of Each on the Antibacterial Activity of the Other. L. D. SABATH AND INGE TOFTEGAARD 54

R-Mediated β-Lactamases and Episomal Resistance to the β-Lactam Drugs in Different Bacterial Hosts. POLYXENI M. KONTOMICHALOU, EFSTATHIA G. PAPACHRISTOU, AND GABRIEL M. LEVIS 60

Relation of Cell Wall Lipid Content of *Serratia marcescens* to Resistance to Antimicrobial Agents. ELAINE B. WINSHELL AND HAROLD C. NEU 73

Purification and Characterization of Syringacin 4-A, a Bacteriocin from *Pseudomonas syringae* 4-A. WILLIAM L. HAAG AND ANNE K. VIDAVER 76

Combined Activity of Sulfamethoxazole, Trimethoprim, and Polymyxin B Against Gram-Negative Bacilli. J. E. ROSENBLATT AND P. R. STEWART 84

Lack of Activity of Sulfamethoxazole and Trimethoprim Against Anaerobic Bacteria. J. E. ROSENBLATT AND P. R. STEWART 93

Determination of Plaque Inhibitory Activity of Adenine Arabinoside (9-β-D-Arabinofuranosyladenine) for Herpesviruses Using an Adenine Deaminase Inhibitor. YVONNE BRYSON, JAMES D. CONNOR, LAWRENCE SWEETMAN, SHAREN CAREY, MARGARET A. STUCKEY, AND ROBERT BUCHANAN 98

Polyene-Resistant Mutants of *Aspergillus fennelliae*: Sterol Content and Genetics. SANG J. KIM AND K. J. KWON-CHUNG 102

In Vitro Susceptibility of *Haemophilus influenzae* to Eight Antibiotics. R. C. GORDON, T. R. THOMPSON, L. I. STEVENS, AND W. H. CARLSON 114

Volume 6 Contents for August Number 2

Antigen Specific for Bacteria Resistant to Tetracycline. IDA BOLDUR AND DAVID SOMPOLINSKY 117

Distribution in Nature of R Factors that Increase Susceptibility to Rifampin of *rif-r* Mutants in *Escherichia coli*. R. SCOTTI, L. G. SILVESTRI, AND E. ROMERO 121

Butirosin Compared with Gentamicin In Vitro and In Vivo. C. L. HEIFETZ, J. A. CHODUBSKI, I. A. PEARSON, C. A. SILVERMAN, AND M. W. FISHER 124

Macromolecule Metabolism and Photosynthetic Functions in Blue-Green Algae

Treated with Virginiamycin, an Inhibitor of Protein Synthesis. C. Cocito and M. Shilo 136
Antibiotic G-418, a New *Micromonospora*-Produced Aminoglycoside with Activity Against Protozoa and Helminths: Fermentation, Isolation, and Preliminary Characterization. G. H. Wagman, R. T. Testa, J. A. Marquez, and M. J. Weinstein 144
Comparative Serum Levels and Protective Activity of Parenterally Administered Cephalosporins in Experimental Animals. Louis R. Fare, Paul Actor, Carl Sachs, Lillian Phillips, MacDonald Joloza, John F. Pauls, and Jerry A. Weisbach 150
Mutanolysin, Bacteriolytic Agent for Cariogenic Streptococci: Partial Purification and Properties. Kanae Yokogawa, Shigeo Kawata, Shinzo Nishimura, Yasuhiko Ikeda, and Yoshio Yoshimura 156
Diphtheria Carriers and the Effect of Erythromycin Therapy. Louis W. Miller, Susan Bickham, Wallis L. Jones, Carl D. Heather, and Roy H. Morris 166
Cefoxitin, a Semisynthetic Cephamycin Antibiotic: Antibacterial Spectrum and Resistance to Hydrolysis by Gram-Negative Beta-Lactamases. Harold C. Neu 170
Cefamandole, a Cephalosporin Antibiotic with an Unusually Wide Spectrum of Activity. Harold C. Neu 177
Characteristics and Expression of Tetracycline Resistance in Gram-Negative Bacteria Carrying the *Pseudomonas* R Factor RP1. Patricia L. Shipley and Ronald H. Olsen 183
Gentamicin Resistance in *Pseudomonas aeruginosa*: R-Factor-Mediated Resistance. L. E. Bryan, M. S. Shahrabadi, and H. M. Van Den Elzen 191
Effect of Chelating Agents on the Susceptibility of Some Strains of Gram-Negative Bacteria to Some Antibacterial Agents. H. Haque and A. D. Russell 200
Relationship Between the Structures of Fatty Acid Amide Derivatives and Their Antimicrobial Activities. Satoshi Ōmura, Michiko Katagiri, Juichi Awaya, Tokio Furukawa, Iwao Umezawa, Nobuhiro Ōi, Masakazu Mizoguchi, Bunya Aoki, and Minoru Shindo 207
Effect of the Inhibition of Protein Synthesis on the *Escherichia coli* Cell Envelope. A. S. Klainer and R. R. B. Russell 216
Antimicrobial Activity of the Volatile Oil of *Nigella sativa* Linnaeus Seeds. Mohamed A. Toama, Taha S. El-Alfy, and Hamed M. El-Fatatry 225

Volume 6 Contents for September Number 3

Speed of Bactericidal Action of Penicillin G, Ampicillin, and Carbenicillin on *Bacteroides fragilis*. E. Schoutens and E. Yourassowsky 227
Microbiological Characterization of Everninomicins B and D. W. Eugene Sanders, Jr., and Christine C. Sanders 232
Properties of R Plasmids Determining Gentamicin Resistance by Acetylation in *Pseudomonas aeruginosa*. George A. Jacoby 239
Resistance of *Pseudomonas aeruginosa* to Gentamicin and Related Aminoglycoside Antibiotics. Randall K. Holmes, Barbara H. Minshew, Kenneth Gould, and Jay P. Sanford 253
New Antimicrobial Nitrofuran, *trans*-5-Amino-3-[2-(5-Nitro-2-Furyl)Vinyl]-Δ^2-1,2,-Oxadiazole: Antibacterial, Antifungal, and Antiprotozoal Activities In Vitro. H. H. Gadebusch and H. I. Basch 263
New Antimicrobial Nitrofuran, *trans*-5-Amino-3-[2-(5-Nitro-2-Furyl)Vinyl]-Δ^2-1,2,4-Oxadiazole: Antimicrobial Efficacy in Mice, Rats, and Guinea Pigs. R. J. McRipley, H. H. Gadebusch, F. Pansy, and R. Semar 268
Treatment of Pneumonia and Other Serious Bacterial Infections with Cephapirin. Hugh G. Robson and M. Ian Bowmer 274
In Vitro and In Vivo Activity of 5-Fluorocytosine on *Acanthamoeba*. A. R. Stevens

Binding of Aminoglycosides to Feces. GERALD H. WAGMAN, JANET V. BAILEY, AND MARVIN J. WEINSTEIN 415
Ampicillin Resistance of *Shigella sonnei*. J. T. SMITH, D. A. BREMNER, AND NAOMI DATTA 418
Inactivation of Endotoxin by Polymyxin B. MICHAEL S. COOPERSTOCK 422
Biliary Tract Excretion of Cefazolin, Cephalothin, and Cephaloridine in the Presence of Biliary Tract Disease. KENNETH R. RATZAN, CARLOS RUIZ, AND GEORGE L. IRVIN III 426
Cinoxacin: Effectiveness Against Experimental Pyelonephritis in Rats. D. H. HOLMES, P. W. ENSMINGER, AND R. S. GORDEE 432
Effect of Probenecid on Cerebrospinal Fluid Concentrations of Penicillin and Cephalosporin Derivatives. RALPH G. DACEY AND MERLE A. SANDE 437
Comparative Activity of Tobramycin, Amikacin, and Gentamicin Alone and with Carbenicillin Against *Pseudomonas aeruginosa*. RONICA M. KLUGE, HAROLD C. STANDIFORD, BEVERLY TATEM, VIOLA M. YOUNG, WILLIAM H. GREENE, STEPHEN C. SCHIMPFF, FRANK M. CALIA, AND RICHARD B. HORNICK 442
Production of Cephalosporin C by *Paecilomyces persicinus* P-10. M. A. PISANO AND E. M. VELLOZZI 447
Evaluation of Two Standardized Disk Methods for Testing Antimicrobial Susceptibility of *Pseudomonas aeruginosa* and of the *Enterobacteriaceae*. ARTHUR L. BARRY AND LEE J. EFFINGER 452
Primaquine Diphosphate: Inhibition of Newcastle Disease Virus Replication. JOHN R. BURDICK AND D. P. DURAND 460
Single-Dose Daily Gentamicin Therapy in Urinary Tract Infection. ELIZABETH LABOVITZ, MATTHEW E. LEVISON, AND DONALD KAYE 465
Comparison of the In Vitro Activity of BL-P1654 with Gentamicin and Carbenicillin Against *Pseudomonas aeruginosa*. CHATRCHAI WATANAKUNAKORN AND THOMAS BANNISTER 471
Binding of [^{14}C]Erythromycin to *Escherichia coli* Ribosomes. SIDNEY PESTKA 474
Effect of Erythromycin Analogues on Binding of [^{14}C]Erythromycin to *Escherichia coli* Ribosomes. SIDNEY PESTKA AND RONALD A. LEMAHIEU 479
Correlation of Effects of Erythromycin Analogues on Intact Bacteria and on [^{14}C]Erythromycin Binding to *Escherichia coli* Ribosomes. SIDNEY PESTKA, RONALD LEMAHIEU, AND PHILIP MILLER 489
Transferable Resistance to Tobramycin in *Klebsiella pneumoniae* and *Enterobacter cloacae* Associated with Enzymatic Acetylation of Tobramycin. BARBARA H. MINSHEW, RANDALL K. HOLMES, JAY P. SANFORD, AND CHARLES R. BAXTER 492
Rapid, Specific Microbiological Assay for Amikacin (BB-K8). PAUL B. MARENGO, JEANETTE WILKINS, AND GARY D. OVERTURF 498
Use of Available Dosage Forms of Cephalexin in Clinical Comparison with Phenoxymethyl Penicillin and Benzathine Penicillin in the Treatment of Streptococcal Pharyngitis in Children. JOHN M. MATSEN, ORDEAN TORSTENSON, STUART E. SIEGEL, AND HADASSAH BACANER 501
Post-Exposure Prophylaxis of Murine Rabies with Polyinosinic-Polycytidylic Acid and Chlorite-Oxidized Amylose. MAURICE W. HARMON AND BURTON JANIS 507
Comparison of Spectinomycin Hydrochloride and Aqueous Procaine Penicillin G in the Treatment of Uncomplicated Gonorrhea. ANA DUANČIĆ, NICHOLAS J. FIUMARA, SUSAN ALPERT, YHU-HSIUNG LEE, PHILIP I. TARR, BERNARD ROSNER, AND WILLIAM M. MCCORMACK 512
Isolation and Characterization of a Kanamycin Resistance Plasmid from *Staphylococcus aureus*. PAUL W. STIFFLER, H. M. SWEENEY, M. SCHNEIDER, AND SIDNEY COHEN 516
Synergistic Effect of Combinations of Sulfamethoxazole, Trimethoprim, and Colistin Against *Pseudomonas maltophilia* and *Pseudomonas cepacia*. CARL-ERIK NORD, TORKEL WADSTRÖM, AND BENGT WRETLIND 521
Inhibition of Herpesvirus Replication by Marine Algae Extracts. E. FRANK DEIG, DOUGLAS W. EHRESMANN, MELVIN T. HATCH, AND DELIMAR J. RIEDLINGER 524
Comparison of In Vitro Antibacterial Activities of Gentamicin and Verdamicin. PAULINE K. W. YU AND JOHN A. WASHINGTON II 526

AND W. D. O'DELL 282
Cefoxitin and Cephalothin: Antimicrobial Activity, Human Pharmacokinetics, and Toxicology. WILLIAM BRUMFITT, JOHN KOSMIDIS, JEREMY M. T. HAMILTON-MILLER, AND JAMES N. G. GILCHRIST 290
Effect of Probenecid on the Apparent Volume of Distribution and Elimination of Cloxacillin. ERNST H. NAUTA, HERMAN MATTIE, AND WIM R. O. GOSLINGS 300
In Vivo Effect of Thiolutin on Cell Growth and Macromolecular Synthesis in *Escherichia coli*. GEORGE G. KHACHATOURIANS AND D. J. TIPPER 304
Antimicrobial Susceptibilities of Anaerobic Bacteria: Recent Clinical Isolates. JOSEPH L. STANECK AND JOHN WASHINGTON II 311
Comparison of Enzymatic and Microbiological Gentamicin Assays. ARNOLD L. SMITH, J. ALLAN WAITZ, DAVID H. SMITH, EDWIN M. ODEN, AND BARBARA B. EMERSON. 316
Susceptibility of Clinical Isolates of Bacteria to Cefoxitin and Cephalothin. ROBERT C. MOELLERING, JR., MARIE DRAY, AND LAWRENCE J. KUNZ 320
5-Fluorocytocine and Amphotericin B in Bronchial Secretions. JAMES E. PENNINGTON, EDWARD R. BLOCK, AND HERBERT Y. REYNOLDS 324
In Vitro Resistance of *Neisseria gonorrhoeae* to Metronidazole. THOMAS T. YOSHIKAWA, SHARON MIYAMOTO, ANTHONY W. CHOW, AND LUCIEN B. GUZE 327
Variation in Performance of the Serum Bactericidal Test. F. D. PIEN AND K. L. VOSTI 330
Synthesis of Deactoxycephalosporin C by a Mutant of *Cephalosporium acremonium*. S. W. QUEENER, J. J. CAPONE, A. B. RADUE, AND R. NAGARAJAN 334
Effects of Rate of Infusion and Probenecid on Serum Levels, Renal Excretion, and Tolerance of Intravenous Doses of Cefoxitin in Humans: Comparison with Cephalothin. C. STEWART GOODWIN, E. B. RAFTERY, A. D. GOLDBERG, H. SKEGGS, A. E. TILL, AND C. M. MARTIN 338
Purification and Characterization of Pertucin Produced by *Pseudomonas pertucinogena*. YOKO KAWAI 347
Inhibition of Herpes Simplex Virus Replication by Phosphonoacetic Acid. L. R. OVERBY, E. E. ROBISHAW, J. B. SCHLEICHER, A. RUETER, N. L. SHIPKOWITZ, AND J. C.-H. MAO 360
Impaired Penicillin Production in Lysine Regulatory Mutants of *Penicillium chrysogenum*. PRAKASH S. MASUREKAR AND ARNOLD L. DEMAIN 366
Dihydrofolate Reductase in *Pediococcus cerevisiae* Strains Susceptible and Resistant to Amethopterin. FREDERIKA MANDELBAUM-SHAVIT AND NATHAN GROSSOWICZ. 369

In Vitro Uptake of Isometamidium and Diminazene by *Trypanosoma brucei*. PAMELA GIRGIS-TAKLA AND DINAH M. JAMES 372
Growth Inhibition of Enteric Bacteria by *Vibrio cholerae* in Nutrient Media Containing Lactate, Acetate, or Citrate. K. BHASKARAN, S. S. IYER, A. W. KHAN, AND V. C. VORA 375

Volume 6 **Number 4**

Contents for October

Evaluation of Aquarium Antibiotic Formulations. T. J. TRUST AND DIANE C. CHIPMAN 379
Mechanism of Action of CM-55, a Synthetic Analogue of the Antilipogenic Antibiotic Cerulenin. TADAO OHNO, JUICHI AWAYA, TADATAKA KESADO, SETSUZO NOMURA, AND SATOSHI ŌMURA 387
Cell Culture Studies on the Antiviral Activity of Ether Derivatives of 5-Hydroxymethyldeoxyuridine. J. B. MELDRUM, V. S. GUPTA, AND J. R. SAUNDERS 393
Biochemical and Genetic Basis of Tetracycline Resistance in *Staphylococcus aureus*. I. CHOPRA, R. W. LACY, AND JANET CONNOLLY 397
Polyene-Resistant Mutants of *Aspergillus fennelliae*: Identification of Sterols. S. J. KIM, K. J. KWON-CHUNG, G. W. A. MILNE, AND B. PRESCOTT 405
Activity of Tetracycline, Doxycycline, and Minocycline Against Methicillin-Susceptible and -Resistant Staphylococci. J. N. MINUTH, T. M. HOLMES, AND D. M. MUSHER 411

Comparison of In Vitro Antibacterial Activities of Gentamicin and Verdamicin. PAULINE K. W. YU AND JOHN A. WASHINGTON II 526

Volume 6 Contents for November Number 5

Effect of Amphotericin B and Clotrimazole on Lymphocyte Stimulation. ARNE TÄRNVIK AND STEFFAN ANSÉHN 529
Detection of R Factors in Naturally Occurring *Vibrio anguillarum* Strains. TAKASHI AOKI, SYUZO EGUSA, AND TOSHIHIKO ARAI 534
Isolation and Antibacterial Activity of Acylphloroglucinols from *Myrtus communis*. A. ROTSTEIN, A. LIFSHITZ, AND Y. KASHMAN 539
In Vitro Susceptibility of *Bacteroides corrodens* and *Eikenella corrodens* to Ten Chemotherapeutic Agents. J. V. A. ROBINSON AND A. L. JAMES 543
Bacteriocin Production and Susceptibility Among Strains of *Streptococcus mutans* Grown in the Presence of Sucrose. A. H. ROGERS 547
Evaluation of the Efficacy of Minocycline Therapy for Staphylococcal Soft-Tissue Infection. JOHN P. PHAIR, RAE E. HARTMAN, AND JUDITH CARLETON 551
Empirical Equation for Pharmacokinetic Analysis of Drug Serum Levels After Oral Application. H. ENGBERG-PEDERSEN 554
Clinical Pharmacology of Pivampicillin. K. ROHOLT, B. NIELSEN, AND E. KRISTENSEN 563
Effect of the Systemic Fungicide Carboxin on Electron Transport Function in Membranes of *Micrococcus denitrificans*. ANNE N. TUCKER AND THOMAS T. LILLICH 572
Biological Activity of Antibiotic G-418, a New *Micromonospora*-Produced Aminoglycoside with Activity Against Protozoa and Helminths. J. A. WAITZ, F. SABATELLI, F. MENZEL, AND E. L. MOSS, JR. 579
Interaction of Clindamycin and Gentamicin In Vitro. ROBERT J. FASS, CAROL A. ROTILIE, AND RICHARD B. PRIOR 582
Triple Crossover Study on Absorption and Excretion of Ampicillin, Pivampicillin, and Amoxycillin. L. VERBIST 588
Antivirion Effects of Streptovaricin Complex Against Friend Virus. JULIUS S. HOROSZEWICZ, SUSAN S. LEONG, DANIEL M. BYRD, AND WILLIAM A. CARTER 594
Assessment of Cytosine Arabinoside as an Antiviral Agent in Humans. CARL B. LAUTER, ELIZABETH J. BAILEY, AND A. MARTIN LERNER 598
Paper Disk-Agar Diffusion Assay of Penicillin in the Presence of Streptomycin. DENNIS RAAHAVE 603
Effect of Leucomycins and Analogues on Binding [^{14}C]Erythromycin to *Escherichia coli* Ribosomes. SIDNEY PESTKA, AKIRA NAKAGAWA, AND SATASHI ŌMURA 606
Proflavine and Light in the Treatment of Experimental Herpetic Ocular Infections. JEFFREY D. LANIER, JOHN P. WHITCHER, CHANDLER R. DAWSON, AND JANG O. OH 613
Antimicrobial Susceptibility of *Haemophilus influenzae*. CLYDE THORNBERRY AND LINDA A. KIRVEN 620
Beta-Lactamase Activity in Ampicillin-Resistant *Haemophilus influenzae*. W. EDMUND FARRAR, JR., AND NOEL M. O'DELL 625
Effect of Adenosine Deaminase Upon the Antiviral Activity In Vitro of Adenine Arabinoside for Vaccinia Virus. JAMES D. CONNOR, LAWRENCE SWEETMAN, SHAREN CAREY, MARGARET A. STUCKEY, AND ROBERT BUCHANAN 630
Antibacterial Effects of Silver Electrodes with Weak Direct Current. J. A. SPADARO, T. J. BERGER, S. D. BARRANCO, S. E. CHAPIN, AND R. O. BECKER 637
Comparative In Vitro Evaluation of BL-P1654 and Carbenicillin Against *Pseudomonas*. G. D. OVERTURF, R. RESSLER, AND J. WILKINS 643
Synthesis of Vaccinia Virus Polypeptides in the Presence of Hydroxyurea. EHUD KATZ, EVA MARGALITH, AND BELA WINER 647
Microbiological Assay and Bioautography of Maytansine and Its Homologues. L. J. HANKA AND M. S. BARNETT 651
Ampicillin Resistance in *Haemophilus influenzae* as Determined by a Rapid Test for

Beta-Lactamase Production. CLYDE THORNSBERRY AND LINDA A. KIRVEN..... 653
Mutagenic Activity of Diazoacetylglycine Derivatives. C. MONTI-BRAGADIN, M. TAMARO, AND E. BANFI..... 655

Volume 6 **Contents for December** **Number**

Pharmacology of Cephalothin in the Biliary Tract of Humans. J. MENDELSON, J. PORTNOY, H. SIGMAN, AND V. DICK..... 659
Effect of R-Factor-Mediated Genes on Some Surface Properties of *Escherichia coli*. N. A. C. CURTIS AND M. H. RICHMOND..... 666
Penicillin-Resistant Mechanisms in *Pseudomonas aeruginosa*: Effects of Penicillin G and Carbenicillin on Transpeptidase and D-Alanine Carboxypeptidase Activities. HIDEKAZU SUGINAKA, AKIRA ICHIKAWA, AND SHOZO KOTANI..... 672
Immunological Study of Anti-Beta-Lactamase Antibodies by Acidimetric Methods. FRANCOIS LE GOFFIC, JANE ANDRILLON-SPIEGEL, AND ROBERT LETARTE..... 676
3-N Enzymatic Acetylation of Gentamicin, Tobramycin, and Kanamycin by *Escherichia coli* Carrying an R Factor. F. LE GOFFIC, ANNIE MARTEL, AND J. WITCHITZ. 680
Studies on the Absorption, Distribution, Metabolism, and Excretion of Propionylmaridomycin in Rats. TAI MATSUZAWA, TAKAO KONDO, AND YASUO KITA..... 685
Pharmacokinetics of Metronidazole as Determined by Bioassay. EDWARD D. RALPH, JOHN T. CLARKE, ROBERT D. LIBKE, RUEDI P. LUTHY, AND WILLIAM M. M. KIRBY..... 691
Continuous Non-Therapeutic Use of Antibacterial Drugs in Feed and Drug Resistance of the Gram-Negative Enteric Florae of Food-Producing Animals. D. SIEGEL, W. G. HUBER, AND F. ENLOE..... 697
Interaction of Purulent Material with Antibiotics Used to Treat *Pseudomonas* Infections. RICHARD E. BRYANT AND DIANNE HAMMOND..... 702
Generation of Formaldehyde from Methenamine: Effect of pH and Concentration, and Antibacterial Effect. DANIEL M. MUSHER AND DONALD P. GRIFFITH..... 708
Antimicrobial Actions of Hexachlorophene: Inhibition of Respiration in *Bacillus megaterium*. JOHN J. FREDERICK, THOMAS R. CORNER, AND PHILIPP GERHARDT..... 712
On the Mechanism of Action of Vancomycin: Inhibition of Peptidoglycan Synthesis in *Gaffkya homari*. WALTER P. HAMMES AND FRANCIS C. NEUHAUS..... 722
Human Pharmacokinetics of BL-P1654 Compared with Ampicillin. JOHN T. CLARKE, ROBERT D. LIBKE, EDWARD D. RALPH, RUEDI P. LUTHY, AND WILLIAM M. M. KIRBY..... 729
Induction Kinetics of β-Lactamase Biosynthesis in *Pseudomonas aeruginosa*. KURT NORDSTRÖM AND RICHARD B. SYKES..... 734
Effects of Sublethal Concentrations of Benzylpenicillin on *Pseudomonas aeruginosa*. KURT NORDSTRÖM AND RICHARD B. SYKES..... 741
Characteristics of the In Vitro Inhibition of Arenavirus Synthesis by Bis-Benzimidazoles. J. P. STELLA, K. D. YANKASKAS, J. H. MORGAN, M. P. FOX, AND C. J. PFAU. 747
Evaluation of Bis-Benzimidazoles in the Treatment of Murine Lymphocytic Choriomeningitis Virus Infections. J. P. STELLA, J. MICHAELSON, S. L. DORFMAN, J. H. MORGAN, AND C. J. PFAU..... 754
Chloroquine-Resistant *Plasmodium falciparum*: Effect of Substrate on Chloroquine and Amodiaquin Accumulation. COY D. FITCH, REKHA CHEVLI, AND YOLANDA GONZALEZ..... 757
Endogenous, Spontaneous Formation of Beta-Lactamase in *Staphylococcus aureus*. S. SACHITHANANDAM, D. L. LOWERY, AND A. K. SAZ..... 763
Characterization of the Binding of Amphotericin B to *Saccharomyces cerevisiae* and Relationship to the Antifungal Effects. JANINA KOTLER-BRAJTBURG, GERALD MEDOFF, DAVID SCHLESSINGER, AND GEORGE S. KOBAYASHI..... 770
Active Insolubilized Antibiotics Based on Cellulose-Metal Chelates. J. F. KENNEDY, S. A. BARKER, AND A. ZAMIR..... 777
In Vitro Inhibition of *Coccidioides immitis* Strains with Amphotericin B Plus Rifampin.

David Rifkind, Ellen D. Crowder, and Robert N. Hyland 783
usceptibility of an Insect *Leptomonas* and *Crithidia fasciculata* to Several Established Antitrypanosomatid Agents. C. J. Bacchi, C. Lambros, B. Goldberg, S. H. Hutner, and G. D. F. de Carvalho 785
haracterization and Prevalence of the Different Mechanisms of Resistance to Beta-Lactam Antibiotics in Clinical Isolates of *Escherichia coli*. Antone A. Medeiros, Ralph L. Kent, and Thomas F. O'Brien 791
nhancement of the Effects of Anti-Staphylococcal Antibiotics by Aminoglycosides. Chatochai Watanakunakorn and Cheryl Glotzbecker 802
roperties of an R Plasmid in *Pseudomonas aeruginosa* Producing Amikacin (BB-K8), Butirosin, Kanamycin, Tobramycin, and Sisomycin Resistance. George A. Jacoby 807
apid, Precise, Turbidometric Assay for Low Levels of Ampicillin in Serum After Single-Dose Oral Administration. Philip L. Whyatt, Raymond E. Dann, Gerald W. A. Slywka, and Marvin C. Meyer 811
enicillin: Reversible Inhibition of Forespore Septum Development in *Bacillus megaterium* Cells. Paul J. Lawrence 815
hosphorylation of Kanamycin, Lividomycin A, and Butirosin by *Providencia stuartii*. Paul B. Marengo, Maymie E. Chenoweth, Gary D. Overturf, and Jeanette Wilkins 821
vidence for Participation of Autolysins in Bactericidal Action of Oxacillin on *Staphylococcus aureus*. Gary K. Best, Norma H. Best, and Ann V. Koval 825
imple Assay for Clindamycin in the Presence of Aminoglycosides. F. Richard Ervin and Ward E. Bullock, Jr 831
roperties of R Factors from *Bordetella bronchiseptica*. Nobuyuki Terakado and Susumu Mitsuhashi 836
harmacokinetics of Gentamicin and Kanamycin During Hemodialysis. Michele Danish, Robert Schultz, and William J. Jusko 841
tudies on the Regulation of Colicin Ib Synthesis: Replication of the Col Ib-P9 Plasmid During Colicin Induction. R. E. Isaacson and J. Konisky 848
Morphological Alterations of *Pseudomonas aeruginosa* by Ticarcillin: a Scanning Electron Microscope Study. Richard B. Prior and John F. Warner 853
In Vitro Studies with Cefazolin. Milwood Motley and Smith Shadomy 856
In Vitro Studies with Cephanone. Smith Shadomy, Carol Kirchoff, and Gerald Wagner 862
In Vitro Susceptibility of *Haemophilus influenzae* to Trimethoprim-Sulfamethoxazole. Linda A. Kirven and Clyde Thornsberry 869

INDEX TO DATE OF ISSUE

Month	Date of Issue	Pages
July	31 July 1974	1–116
August	8 September 1974	117–226
September	4 October 1974	227–378
October	31 October 1974	379–528
November	3 December 1974	529–657
December	30 December 1974	659–870